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A.I.D. DISCUSSION PAPER NO. 10

PROJECTED AID REQUIREMENTS FOR TURKEY: 1960-1975

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A.I.D. Discussion Paper No. 10

PROJECTED AID REQUIREMENTS FOR TURKEY: 1960-1975

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These papers are designed to stimulate and serve as background for discussion. They represent the views of the authors and are not intended as statements of Agency policy.

December, 1965

PREFACE

This paper is one of a series of detailed country studies which formed part of the 1964 Summer Research Project of the Office of Program Coordination. The Summer Research Project was composed of three parts: the first part was a review of A.I.D.'s past experience with aid policies in individual countries; the second part consisted of a number of country studies of future aid requirements of which this paper was one; and the third part was a 50-country study which attempted to make long-range projections of foreign aid needs. These summer projects were conducted largely by summer consultants and summer interns with the active assistance of a number of A.I.D. professional staff.

One purpose of the projects was to gain an idea of the probable range of future total aid requirements both for selected countries having major programs and for a significant part of the developing world as a whole. Another important purpose was to investigate the sensitivity of aid requirements to variations in rates of growth of GNP, exports and the like. A third goal of the studies was to demonstrate the use of analytical techniques and quantitative models for program planning.

This study by Jeffrey Williamson is a relatively straightforward example of the use of modern statistical and programming techniques in analyzing long-run assistance needs for an individual country; it therefore provides a useful illustration of the methodology of economic model building.

Professor Williamson spent approximately six weeks preparing and writing this study. He initially spent several weeks in Washington during the summer of 1964 gathering data and developing a preliminary version of this study. Subsequently he visited Turkey to consult with the staff of the A.I.D. Mission and the Turkish State Planning Office. The revision and refining of the final report was then completed at the University of Wisconsin. While in Washington he was assisted by Marcelle Arak, a graduate student in economics from the Massachusetts Institute of Technology.

A number of the assumptions made in the study are now thought to be unrealistic. In particular, assumptions relating to import substitution may be overly pessimistic in view of the opening of Eregli Steel and recent oil discoveries. Then too, one may question the assumption that Turkey is not a marginal exporter of figs, raisins, hazelnuts, tobacco, chrome, and chrome concentrates. To take another example, there may also be a greater expansion of future cotton exports than estimated in this study because of significant investments in irrigation already underway.

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One particular set of assumptions made in the paper -- those relating to debt servicing (Appendix A) - requires special comment. The format of the country studies for the 1964 Summer Research Program specified that the gross inflow of public funds was the sum of the deficit on current account (excluding interest on the public debt outstanding) plus debt servicing (amortization and interest payments) minus capital flow other than public funds. The debt servicing for five, ten, and fifteen year periods was computed under various assumptions on maturities, interest rates, and the grace periods in order to investigate the effect of alternative debt terms. These "Gross Inflows of Public Funds" indicate illustrative gross magnitudes of official grants and loans needed by Turkey in 1965, 1970, and 1975 to finance debt servicing and the net deficit on current account. It is now realized that these illustrative magnitudes lack realism.

During the spring and summer of 1965 a Working Party of the OECD Consortium for Turkey made an extensive study of the possibilities of rescheduling the country's debt payments and leveling out their burden over the period 1965-1973. The rescheduled amortization and interest payments which resulted from the Working Party's efforts differed substantially from those included in this study. Williamson's estimates decline each year from 1965 to 1973; the currently rescheduled debt servicing is more or less constant during the period 1965-1971, and declines substantially only during the last two years.

In the case of new debt the current average grace period for loans by members of the Turkish Consortium is 10 years for the United States and 7 years for other members. Consequently, amortization of new debt (after 1964) begins in the early 1970's with only a small amount (i.e., non-U.S. aid during 1965, 1966, 1967) being amortized in 1975. The four and five year grace periods used in the appendix estimates introduce amortization payments into the Gross Inflow of Public Funds in the late 1960's.

Professor Williamson's current analysis of Turkish aid requirements is thus intended less as a realistic set of projections and more as a realistic illustration of an approach which might be useful in making such projections. Time limitations precluded the type of thorough investigation of the country studied which is essential in the construction of reliable projections. It is hoped, however, that this study, although subject to factual weaknesses, will give the reader a sense of the usefulness of quantitative model-building techniques in formulating and testing long-range country assistance strategies.

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1. Methodology and Data

The estimation techniques utilized in deriving this model of the Turkish economy, and the methodology of the investment-savings and import-export gap approach, have been summarized and amplified in other publications of the 1964 Summer Research Project, and need not detain us here. For such background the reader is referred to both Estimating LDC's Future Aid Requirements* and A Case Study in Development Analysis: Future Foreign Resource Requirements of Colombia by Jaroslav Vanek. Given variations in data availability, institutional environments, and researchers' time, differences in estimating procedure must surely accompany each of the country studies forming part of the summer research project. Such differences will become obvious to the reader as he makes his way through the Turkish study. Nevertheless, there are major peculiarities in the Turkish national accounts which make our model and its projections rather distinctive. These should be emphasized at the outset.

Turkish data reporting and compiling agencies have made considerable progress over the past years in improving the coverage and accuracy of their quantitative information. Like all underdeveloped nations, Turkey still has considerable margin for improvement. One peculiarity remaining in the national accounts should be underlined at an early stage: all our estimates and projections of savings and investment are net of inventory investment. The Turkish accounts give estimates only of gross fixed capital investment from which gross domestic savings is derived as a residual. Inventory investment is included in the private consumption aggregate. No attempt has been made to

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* Summer Research Project (1964) Publication No. 5

construct approximations of inventory investment since the Summer Research Project is severely constrained by time. Hopefully, the gap estimates should not be greatly affected by the exclusion of inventory investment from total gross investment (and from the savings out of which such investment is financed).

Gross domestic product at factor cost, V, can be disaggregated into eight value added sectors. In the functional relationships which follow these exogenous variable can be identified by the notation,

$$V=\sum_{i=1}^{8} V_i,$$

where the sectoral i are the following:

$$\begin{aligned}
i &= 1, && \text{agriculture} \\
i &= 2, && \text{mining and quarrying,} \\
\left.\begin{array}{l} i = 3, \\ i = 4, \end{array}\right\} & && \left.\begin{array}{l} \text{capital goods} \\ \text{non-capital goods} \end{array}\right\} \quad \text{manufacturing,} \\
i &= 5, && \text{electricity, gas and water,} \\
i &= 6, && \text{construction,} \\
i &= 7, && \text{transportation and communications,} \\
i &= 8, && \text{all other (services).}
\end{aligned}$$

The projections and the estimation of the model's structure rely primarily on data collected from the United Nations The Growth of World Industry, 1938-61 and the Yearbook of National Accounts Statistics, various issues of the International Monetary Fund's Balance of Payments Yearbook, the Yearbook of International Trade Statistics, various issues of the International Financial Statistics, the Turkey Long-range Assistance Strategy (AID), the First Five Year Development Plan, 1963-1967, and Cartan's A Report on Studies Concerning the Correction and Standardization of Investment Accounts.

Before passing on to a review of the model's estimated structure, a brief comment on the use of Turkish data for the estimation of macro relationships might be in order. It should come as no surprise that this study makes use of many alternative sets of data and does not rely inflexibly on one or the other consistently throughout. Thus we have found the Plan to be extremely helpful in estimating the structure of the export function but of little use in determining future investment requirements. On the other hand, some portions of Turkey's historical experience are clearly relevant for estimating the savings function but less so for her future exports. We attempt to justify our choice of these alternative sets of empirical evidence in each section. In some cases they become sources of alternative assumptions within the model.

2. The Investment Function

We have already indicated that inventory investment cannot be treated in our analysis of future investment requirements. An additional constraint on the model's sophistication lies in the paucity of net investment information by sectoral or functional classification. All our investment functions and the data upon which they are based are given on a gross rather than a net basis: throughout, investment refers to both replacements and increments to the capital stock. Furthermore, although our exogenous variables (V_i) are in factor prices, both investment and savings are valued in market prices according to the conventions of national income accounting. It should be noted as a final qualification

that there are no reliable investment data by sector for Turkey which yield meaningful time series. As a result, our disaggregated investment function is expressed in functional rather than sectoral terms.

After preliminary experimentation with the available historical data we settled upon the disaggregation of gross fixed investment into four components. In the case of Turkey gross fixed investment is written as:

$$I^f = I^{em} + I^p + I^o + I^{rh},$$

where I^f = gross fixed investment,

I^{em} = investment in machinery and equipment (including transportation equipment),

I^{rh} = residential housing investment (private urban and rural housing construction and public construction of buildings),

I^p = investment in plant (state and private construction of commercial and industrial buildings),

I^o = other gross fixed investment (mainly public works).

A more extensive breakdown might have been possible into public and private sectors but the data available for potential explanatory variables was in all cases very limited: historical data, for example, on the profits, sales and value added among the state enterprises and according to sectors is either non-existent or totally chaotic. Another possible source of further disaggregation lies with machinery and equipment investment.

In the pre-Plan era, practically all transportation equipment was imported and thus a separation of I^{em} into transportation equipment and "all other" machinery and equipment might have been possible. We have left this alternative to future studies, however, and have used the basic data on I^{f} breakdowns as given.

Nevertheless, this breakdown has the advantage that each component is relatively homogeneous. I^{em} and I^{p} are self-explanatory in this regard. With regard to I^{rh}, between 65 to 75% of non-commercial and non-industrial building construction was represented by private residential housing in the decade of the 1950's. The residual investment component, I^{o}, is almost entirely urban and rural public works investment. Each of these investment components is valued in constant prices.

Investment in residential housing, or more accurately private and public building investment, was assumed to have a linear relation with total national income or gross domestic product. The capital requirements in residential housing are not closely related to postulated desired increases in output especially over a period of fifteen years. Further justification for the hypothesized linear relation between I^{rh} and V can be found in the fact that time series information is rather limited for Turkey. A more sophisticated investment relationship including such relevant decision variables as population growth, internal migration and

family formation rates would be quite out of the scope of the time limits of the Summer Research Project. And indeed it does appear that public and private building construction consumes a relatively stable share of GDP or V over time; over the decade of the 1950's the average share of I^{rh} in V was about 5%. More precisely, we estimate that

$$(2a) \quad I^{rh} = .052\ V.$$

Perhaps a better justification for the assumed fixed relationship between residential housing investment and gross domestic product lies in the Plan and with most recent Turkish experience. Turkish policy makers have expressed the desire to limit housing investment and the plan projects a rate of growth of I^{rh} roughly equal to the overall planned rate (i.e., maintaining a fixed share of I^{rh} in gross domestic product). To achieve this end, recent measures have eliminated tax advantages for luxury housing and have reduced exemptions for middle class housing. On the other hand, low cost housing may be stimulated in the future by the new proposals being offered to induce greater worker remittances from Western Europe.

In the case of "other" investment (primarily public works), we have assumed that this type of social overhead capital is a function of the rate of growth of total output rather than the rate of change of output in the non-agricultural sector since a large part of Turkish public investment of this type is allocated to the rural sector. We have estimated that:

$$(2b) \quad I^{o} = .614\, r\, \bar{V}\, (1 + r)^{t},$$

where r is the rate of growth of total value added and $\bar{V}$ is total value added in the base year. *

A comment should be made at this stage concerning our time period of observation. Although the Turkish economy after 1961 had regained some of the impressive momentum typical of the early and mid-1950's, the period after 1958 and up to 1961 was particularly poor in performance. This span of three or four years is hardly characteristic of the average capabilities of the Turkish economy. It is one of political turbulence, adjustment to such change, and eventual severe recession. In fact, both the rate of growth of the Turkish economy and its marginal capital output ratios reveal a distinctive secular pattern. From the early to the later years of the 1950's, growth rates show a steady decline while marginal capital output ratios and measures of excess capacity exhibit a steady increase. Both of these series appear to reverse their secular movement following the recession of the early 1960's. Because of this long-run pattern, as well as the fact that the Turkish economy has since revived

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* Barred variables are used throughout this study to denote base year values.

and reached a growth performance more typical of the earlier years, we have discarded the period after 1958 in estimating (2b), (2c), and (2d). Thus an overall marginal capital output ratio for the period 1950-62 is closer to 3.2. The plan, on the other hand, assumes an overall marginal capital output ratio of 2.6. (The low Plan figure has since been revised upward to approximately 2.9, while the original Plan estimate was projected to increase in the Second Five Year Plan as excess capacity was eliminated). The mechanics of the estimation of (2b) were as follows: I^o is summed over the period 1951-55 and related to the increment in output between three year moving averages centered on 1952 and 1957. For similar reasons this procedure was used in estimating (2c) and (2d) where investment and output data are also in constant prices.

Investment in machinery and equipment is restricted to the output performance in sectors i = 2,3,4,5,6,7. In the Turkish case the service sector is not a major consumer of investment in machinery and equipment. Although a considerable percentage of I^{em} was consumed by the agricultural sector in the early 1950's, the proportion fell significantly over the decade. Furthermore, a good portion of investment in irrigation is included in the energy sector (e.g., I^o) or, if due to the peasants' own efforts, is not included in the estimates of investment at all! Since the time was not available to allocate I^{em} between transportation and other machinery and equipment, our function explaining investment requirements

in machinery and equipment includes sector 7, the transportation and communication sector. In this case,

$$(2c)\quad I^{em} = 2.320\, r_{234567}\, \bar{V}_{234567}\, (1 + r_{234567})^{t},$$

where the r's and V are defined as above.

We are left to estimate the investment requirements in industrial and commercial plant. Here we can exclude the construction sector but must add, of course, the service sector. Following the same procedure as outlined above, we estimated the relationship,

$$(2d)\quad I^{p} = .363\, r_{234578}\, \bar{V}_{234578}\, (1 + r_{234578})^{t}.$$

In summary form, equations (2a), (2b), (2c) and (2d) can be aggregated into an overall investment function.

$$I^{f} = I^{em} + I^{p} + I^{o} + I^{rh}$$

or

$$(2f)\quad I^{f} = .052\, V + .614\, r\bar{V}\, (1+r)^{t} + 2.320\, r_{234567}\, \bar{V}_{234567}\, (1+r_{234567})^{t} + .363\, r_{234578}\, \bar{V}_{234578}\, (1+r_{234578})^{t}. *$$

3. The Savings Function

The reader will recall that savings is valued on a gross rather than a net basis in this study and thus includes depreciation allowances. Savings is defined as the difference between gross national product (at market prices) and consumption (which includes inventories); in fact savings is derived as a residual in the Turkish national income accounts. The difference between total gross fixed investment and national savings identically equals the balance of payments on current account.

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* Barred variables are used throughout this study to denote base year values.

Estimation of an adequate savings function proved the most difficult of our tasks. Data available for disaggregation of national savings into meaningful components were severely limited and as a result the final function used in the projections in quite elementary. We have disaggregated national savings into three components. Total national savings is the sum of depreciation allowances (S^d), the savings of the central government out of current revenue after current expenditures (S^g), and the residual, the combined savings of the private business sector, household, and state enterprises (S^o). Thus,

$$S = S^d + S^g + S^o.$$

Further disaggregation of savings into the private business sector and households (or urban and rural) might have been possible by making use of such studies as O. Yenal's The Economic Nature and Significance of the Development of a Capital Market in Turkey (Istanbul, September 1963) but closer examination indicated that such an attempt would be fruitless. First, such data as does exist are not consistent and are based upon extremely restrictive assumptions. Second, it does not appear obvious that statistical information exists to generate a sample representing the appropriate explanatory variables. For these reasons we retained the simplified version as expressed above.

In estimating a functional relationship explaining depreciation allowances, we attempted two alternatives in lieu of information on the capital stock and its distribution in Turkey. We tried to relate S^d alternatively to both V and I^f by making use of standard regression techniques.* In both cases no set of lags with or without moving averages

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* We have had no success in discovering how depreciation is estimated in Turkish national accounts.

appeared to result in significantly higher R^2's than one which relates this year's S^d to this year's V or I^f. Since a trend in the ratio was apparent we estimated the following function with an intercept:

$$(3a) \quad S^d = \underset{(.026)}{.254}\, I^f + 103.06, \qquad R^2 = .92.$$

The relationship was estimated from statistics covering the period beginning 1950 where both S^d and I^f are taken in constant prices and are in millions of Turkish Lira. When S^d was run on V the resulting fit appeared distinctly inferior ($R^2 = .89$).

Estimation of a governmental savings function proved to be far more difficult. Recall that S^g is defined as the difference between current revenues and current expenditures. Over the decade of the 1950's and early 1960's both the ratio $S^g/(T^d + T^i)$ and $(T^d + T^i)/V)$* have varied widely under opposing influences. A secular tendency towards increased government revenues (general and annexed budgets) relative to national income was offset by the effects of stagnation of the late 1950's and eventually recession of the early 1960's. As a result, S^g/G fluctuates dramatically between 6.0% and 26.1% during the period 1950-62. The average propensity of the government to save has been approximately 14.5% with a rising secular trend. The Plan makes very optimistic projections with regard to future government revenues and in 1967 has S^g/G exceeding 30%. This projection seems at first sight to be highly unrealistic given the existing tax base and in spite of recent and projected improvements in the base and its flexibility. Clearly,

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* G = Current government expenditures; $T^d + T^i$ are, respectively, direct and indirect taxes. See page 12 for more complete definitions.

if the Plan estimates of S^g are unacceptable we must make some attempt to disaggregate the sources of government savings in order to arrive at a more accurate estimate. After some experimentation we settled on the following relatively simple expression for government savings:

$$S^g = (T^d + T^i) - (G^{df} + G^{ndf})$$

where T^d = direct tax revenue (= income tax + corporation income tax + inheritance and gift tax + defense tax on building + motor vehicle tax + other direct taxes),

T^i = indirect tax revenue (including revenue from monopolies and all other public revenue but excluding counterpart funds),

G^{df} = current defense expenditures,

G^{ndf} = current non-defense expenditures.

Total current government expenditures (G) as a share in gross domestic product historically has revealed wide fluctuations: from a peak share in 1950 of 14.7% it declined erratically to a low of 8.3% in 1957. Since 1957 the ratio has increased, attaining a share of 12.5% in 1961. The Plan projects a sharp increase in the early Plan years (15.2% in 1963) while becoming relatively stable thereafter. In fact the State Planning Organization (SPO) projects a rate of growth of 8.7% in G over the five year planning period or at an overall rate 1.243 times that of gross domestic product. Between 1953 and 1961, however, G^{ndf} has grown at a rate 1.202 times that of V. Both of these figures are much too large to use in long range projections: applying the differential Plan rate of 1.243 results in a ratio of current government expenditures to gross domestic product of 25.0 percent by 1970.

We have instead relied on more reasonable alternatives. On the one hand we have assumed that the Turkish Plan goal of limiting the size of current government expenditures will be successful. The basic goal of the Plan is to stabilize G/V at some fixed ratio and more generally to keep current government expenditures at levels which do not conflict with a rapid rate of expansion of government investment expenditures. Thus we have assumed two alternatives. The first reflects considerable success with austerity:

$$(3b) \quad G = \bar{G}(1 + r_g)^t \qquad \text{where } r_g = .035.$$

As a more readily attainable goal, we make the alternative assumption that the G/V share will remain constant:

$$(3b') \quad G = \bar{G}(1 + r_g)^t \qquad \text{where } r_g = r_V.$$

The second alternative, (3b'), is certainly most likely to be proven by subsequent facts, but we include (3b) in our projections only to give the reader a sense for the impact of these assumptions upon the marginal savings ratio.

Let us now turn to the estimation of government revenue. T^i includes a broad distribution of sources the most important of which in 1963 were production taxes on import, general production taxes, customs duties, revenue from monopolies, and stamp duties. A priori, the most relevant explanatory variable would appear to be non-agricultural value added and in fact in the regressions themselves $(V - V_a)$ proved to provide better explanatory power than V. We estimated T^i as a linear

log function and, at the suggestion of the State Planning Organization, we use the period 1954-1963 as our sample observations. Thus we have

$$(3c) \qquad T^i = \bar{T}^i \left(1 + \underset{(.0089)}{.9238}\, r_{2345678}\right)^t, \qquad R^2 = .932.$$

By far the major portion of T^d in 1963 was in the form of personal and corporate income taxes, the former equal to 63% and the latter 12%. The percentage supplied by the new agricultural income tax is insignificant (less than 1%) and the projections to 1966 do not suggest a very large improvement in the relative importance of this source. Thus for T^d we use again $(V - V_1)$ as our explanatory variable and consider the period beginning 1952 when the income tax received its major implementation. Thus we estimate here that

$$(3d) \qquad T^d = \bar{T}^d \left(1 + \underset{(.0394)}{1.1044}\, r_{2345678}\right)^t, \qquad R^2 = .987.$$

It should be noted, however, that considerable progress has been made in recent years to improve the tax base and its flexibility. Furthermore, this new tax legislation has already had some impact in increasing the relative levels of T^d and T^i. It is impossible to estimate the permanence of these shifts and their magnitude until more data are available. It does suggest, however, that our projections of S into the future may be too low.

The combined savings of the private business sector, households, and state enterprises remains for us to estimate. Initially we attempted

two alternative linear relations where S^o was regressed on V and $(V - V_1)$. The justification for expecting a better fit when S^o was related to non-agricultural value added is simply that the largest share of household savings (and savings of the state enterprises) usually finds its source in the urban sector of the economy and thus in the value added of the non-agricultural sector. In fact, a significantly better fit appeared when S^o was related to total value added. In final form the estimated relationship is:

$$(3e) \qquad S^o = -142.7 + \underset{(.0046)}{.0743}\, V - T^i - T^d, \qquad R^2 = .963,$$

where total current government revenue is subtracted from total value added. The coefficients were estimated using the time period 1951-1962 and the intercept is in millions of TL.

In summary form, equations (3a), (3b), (3c), (3d), and (3e) can be aggregated into an over all savings function.

$$S = S^d + (T^d + T^i) - (G^{df} + G^{ndf}) + S^o$$

or

$$(3f) \qquad S = \bar{S}^d + .254\left[I^f - \bar{I}^f\right] + \bar{S}^o + .0743\left[(V - T^d - T^i) - (\bar{V} - \bar{T}^d - \bar{T}^i)\right]$$
$$+ \bar{T}^d (1 + 1.1044\, r_{2345678})^t + \bar{T}^i (1 + .9238\, r_{2345678})^t$$
$$- \bar{G} (1 + r_g)^t,$$

where r_g is set alternatively equal to .035 and r_V.

The marginal savings rate inherent in these estimated relationships is not independent of assumed growth rates. The marginal savings ratio varies with both assumptions regarding r_g and those regarding future sectoral growth patterns. In all cases, however, the marginal savings ratio exceeds substantially the average savings ratio in the base period (13.1 percent). Nevertheless, under only one set of assumptions does

the future marginal savings ratio reach or exceed the Plan rate of 28 percent: under the most optimistic conditions (Plan growth rates and government "austerity" in current expenditures) the marginal savings rate is computed as 29.1 percent. The implication of these remarks is that the coefficients of our tax revenue functions must be raised considerably by recent tax legislation in order to provide support for the optimism of the Plan.

4. The Import Function

It has been pointed out elsewhere (Vanek, A Case Study in Development Analysis: Future Foreign Resource Requirements of Colombia) that our import function should exclude interest on the public debt. Financing of balance of payments deficits and considerations regarding debt and amortization enter explicitly in the estimation procedure. These elements of the current account will be estimated after we have used the model to project all other components of the balance of payments and the net deficit. Thus our import function explains all imports on current account except interest on the public debt and where commodity imports are valued c.i.f.

After some experimentation, it seemed wisest to disaggregate Turkish imports into the following components:

$$M = M^{c-fe} + M^{r} + M^{fu} + M^{bm} + M^{o} + M^{em} + M^{s},$$

where M^{c-fe} = imports of chemicals less fertilizers (c.i.f.),

M^{r} = imports of raw materials (c.i.f.),

M^{fu} = imports of fuels (c.i.f.),

M^{bm} = imports of base metals (c.i.f.),

M^{em} = imports of machinery and equipment including transportation equipment (c.i.f.),

M^{o} = all other commodity imports (c.i.f.),

M^{s} = imports of services excluding interest on the public debt and insurance and freight charges (since commodity imports are valued c.i.f.).

After several false starts, a common estimation procedure was adopted for all the import components but M^{s} and M^{em}. Commodity import values in dollars were deflated by an appropriate index of U.S. export prices (e.g., imports of raw materials were deflated by an index of prices of U.S. exports of raw materials--see World Trade Information Service). Imports in constant U.S. dollars were then converted into TL by applying the base year official exchange rate (1 U.S. \$ = 9 T.L.). Each M^{i} was then related to value added (in 1961 prices) in the appropriate consuming sectors of the Turkish economy.

Before describing the estimated import functions, it should be noted that Turkey has undergone a variety of experience in the recent fifteen years regarding import restrictions. The earlier years of the 1950's were ones of relative freedom while the later ones were ones of increasing controls and restrictions. Variation in these institutional

constraints make the problem of estimation somewhat difficult. In the case of M^o, we make the distinctions quite clear since the influence of commercial policy has fallen most heavily on this component (consumer durables and fertilizers). We find the discontinuity centered on 1955-56 with the inauguration of sharp changes in commercial policy. Over the period 1951-55, the ratio of M_o to V remains fairly stable but at a far higher level than is the case between 1956 and 1961 when import restrictions become especially severe. Since the import coefficient does not exhibit any trend within either of these two stages of Turkish post-war development we have assumed as much in our projections: our function takes the form

$$M^o = \alpha V.$$

In the projections which follow we make two alternative assumptions regarding the value of α. Under conditions of continued foreign exchange control, typical of the period since 1956, we estimate:

$$M^o = .022 V, \tag{4a}$$

while as a less likely alternative we project import demands for consumer goods under free market conditions (1951-55),

$$M^o = .043 V. \tag{4a'}$$

It should be clear that fluctuations in M^o/V can be represented as a policy parameter and (4a) should not be treated as an inflexible limit. On the contrary, given Turkish difficulties with export expansion, lagging rates of import substitution and limits on the future inflow of public and private captial, M^o may continue to appear as a flexible tool implementing commercial policy: M^o/V may thus decline far below the

level implied by (4a). Nevertheless, in our projections we retain the estimated relationships as they appear in (4a) and (4a').

The historical behavior of raw material imports, M^r, and chemical (less fertilizer) imports, M^{c-fe}, is quite similar to that of M^o. Since the manufacturing sector is the major source of demand for these two import types, we relate them both to V_{34}. No trend is apparent within the two periods and we have assumed that the stability of the import coefficients will hold in the future. Appealing to empirical observations of the most recent period, we have:

$$M^r = .036\ V_{34} \qquad (4b)$$

and

$$M^{c-fe} = .054\ V_{34}. \qquad (4c)$$

Fuel imports are intermediate inputs relevant to sectors 3 and 4 (manufacturing), 5 (electricity, gas and water) and 7 (transportation and communications). The import coefficient here has been relatively constant throughout the period since 1951. Given the difficulty of making intelligent projections of future domestic fuel supply, here too we have anticipated no change in the import coefficient over the next decade.

$$M^{fu} = .043\ V_{3457}. \qquad (4d)$$

In the same fashion, we have estimated our import function for base metals as:

$$M^{bm} = .039\ V_{346}, \qquad (4e)$$

where base metal imports are treated as inputs of sectors 3 and 4 (manufacturing) and 6 (construction). It should be emphasized that

this relationship excludes the possibility of import substitution (a reduction in the import coefficient) in base metals. This does not seem unrealistic if immediate past experience is any judge. The paucity of data makes any other assumption difficult to defend. Nevertheless, we might have used the rate of growth of V_{34} as a proxy for the rate growth of steel mill output. It is true that some studies have attempted to project future demand and supply for metal products in Turkey but they are extrememly rough at best. For these reasons, we leave the task of including potential import substitution in base metals to future revisions pending the appearance of more adequate data.

Import substitution is clearly possible, and is planned, in the capital goods sector. In fact the estimation problems for this sector are less difficult and data more generously available than in the case of base metals. In formulating our import demand function for machinery and equipment, we want to derive a relationship which includes both the projected future demands for capital goods as well as potential future domestic supply. As a measure of future demands for capital goods we already have estimated a function explaining investment requirements in machinery and equipment (2c). We also have available historical information covering the period since 1950 regarding the gross value of domestic capital goods output (Gürtan, A Report on Studies Concerning the Correction and Standardization of Investment Accounts). Although

it is the gross value of domestic capital goods output with which we are concerned, rather than value added, some benefit might be obtained by rewriting our function in a form equivalent to that used in other country studies pursued as part of the summer research project. In order to do so we have assumed a constant ratio of gross output to value added in the domestic capital goods sector equal to 2. (This figure is borrowed from the Colombian and Indian studies where in the former the ratio ranges between 1.94 and 2.25 while in the latter the figure is given as 2.) Thus we can write our import demand function for imports of machinery and equipment as:

$$(4f) \quad M^{em} = 2.320\, r_{234567}\, \bar{V}_{234567}(1 + r_{234567})^{t} - 2.0\, V_3.$$

The projection of V_3 into the future may itself prove a serious problem. To assume that Turkey continues to enjoy a rate of growth in V_3 equal to 16.4% (this in fact has been the rate of growth in the domestic capital goods sector since 1951 — the Plan projects a rate of growth of approximately 36%) is to assume that Turkey becomes a net exporter of capital goods by 1975.* Although other developing nations have been able to attain rates of growth in V_3 exceeding by far 16.4%, the Turkish Plan estimate of 36% still seems unrealistic. If the most recent Plan experience is at all relevant it would suggest support for this contention since the level of Plan implementation in the machinery and chemical sector has been the poorest recorded (25% implementation rate for 1962/63 as compared to an 82% overall Plan rate). That the exponential rate of 16.4% implies no

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* If all other sectors grow at historical rates too: under planned sectoral growth rates the statement does not hold.

net imports of machinery and equipment by 1975 (under historical growth rates of V_i) should not be justification for rejecting the assumption of $r_3 = .164$ out of hand. Turkey may be by then in a position to export unsophisticated producer's goods while still importing the more complex and capital intensive producer's goods.

Nevertheless, as a less optimistic alternative we might project V_3 linearly into the future. In that case we would write our function explaining future domestic supply of capital goods as:

$$V_3 = 73.7 + 26.6\ t,$$

where V_3 is valued in 1961 factor cost prices (and the figures are in millions of TL and t = 9 = 1960). In fact the projections will involve the use of both of these alternative assumptions with the truth lying somewhere between.

We are left with imports of services (M^s) to explain (recall that M^S excludes interest on the public debt, freight and insurance charges). Disaggregation of M^S into more detailed components seemed unpromising for at least two reasons. First, imports of services have been a relatively small proportion of total imports over the past decade--averaging about 13 percent--especially so given that it contains such diverse components. Second, we would again be faced with the problem of data availability in explaining such components as earnings on private

foreign investment. M^s has been growing at a rate exceeding that of GDP or national income. A large part of that growth has been due to both a rapid expansion of expenditures on travel and increased earnings from foreign investments in Turkey. It seems more correct to express M^s as a function of non-agricultural value added. Utilizing the sum of Turkey's experience since 1951, we have estimated:

$$\text{(4g)} \quad M^s = \bar{M}^s + \underset{(.0120)}{.0571} \left[(V - V_1) - (\bar{V} - \bar{V}_1) \right], \quad R^2 = .716.$$

In summary form, the disaggregated import functions can be grouped into an overall import demand equation:

$$M = M^{c-fe} + M^r + M^{fu} + M^{bm} + M^o + M^s + M^{em}$$

or

$$\begin{aligned} \text{(4h)} \quad M = {} & .090\, V_{34} + .043\, V_{3457} + .039\, V_{346} + \alpha\, V + \bar{M}^s \\ & + .0571 \left[(V - V_1) - (\bar{V} - \bar{V}_1) \right] \\ & + 2.320\, r_{234567}\, \bar{V}_{234567}\, (1 + r_{234567})^t - 2.0\, V_3, \end{aligned}$$

where α is set alternatively equal to .022 and .043.

5. The Export Function

Relative to other nations at similar levels of development, Turkey's export bundle is fairly well diversified although the bulk finds its source in either the agricultural or mining sectors. Greece and Egypt, not to mention the Latin American republics, have far higher coefficients of commodity export concentration than does Turkey. From this point of view the estimation of the export function can become considerably complex since we must disaggregate exports into a number of

verse components. On the other hand, very few of Turkey's major exports e, at present, intermediate products which have rapidly growing domestic mands (with cotton the possible exception). Thus the controlling factors come internal supply and foreign demand with internal demand conditions legated to a minor role. In some cases domestic supply constraints are viously crucial, as with cotton and tobacco production. In most instances, wever, domestic supply is potentially quite elastic as in the case of esh fruits and nuts, dried fruits or tourism. To further complicate our timation problem, although Turkey is a small nation whose exports are latively diverse, she is not a marginal supplier in all her products. the contrary, she would appear to be a marginal exporter only in cotton i fresh fruits. Foreign demand conditions therefore become major nstraints facing exports in figs and raisins, hazelnuts, chrome and rome concentrates, and tobacco.

The export function estimated here is relatively unsophisticated nce it is primarily based upon rough projections of future conditions world markets or past performance in domestic supply. In any case, reader will find little in the pages following to revise our conventional simistic notions regarding Turkey's immediate export prospects. Before key's export problems can significantly diminish the composition of the ort bundle must undergo significant change. Perhaps by 1970 the composition l have been significantly redistributed so that the rapidly expanding ponents will receive heavier weight and have a major impact upon total orts. Between 1951 and 1959, however, the export bundle became, if thing, more, not less, concentrated (see G. Kansu, "Concentration of eign Trade with Special Reference to Turkey," Planning in Turkey, Ankara, 4).

After some deliberation we have settled upon seven relatively homogeneous export classes in estimating the export function:

$$E = E^{c} + E^{T} + E^{df} + E^{n} + E^{ch} + E^{o} + E^{s},$$

where E^{c} = cotton exports,

E^{T} = tobacco exports,

E^{df} = dried fruit (mainly figs and raisins) exports,

E^{n} = fresh fruits and nuts (especially hazelnuts) exports,

E^{ch} = chrome and chrome concentrates exports

E^{o} = all other commodity exports,

E^{s} = exports of services,

and where all commodity exports are valued f.o.b. The choice of this disaggregation becomes clear with an examination of the component export commodity shares for the years after 1959. In 1960 cotton export earnings were 14.4% of total exports; dried fruit, 9.3%; fresh fruits and nuts, 14.9%; tobacco, 20.4%; chrome and chrome concentrates, 3.6%; the sum of all other commodity exports, 37.4%. One or two commodity exports which are included in the E^{o} component, and which appear to be relatively important in the 1960 composition, have been excluded from detailed examination since they are only transitory and should disappear with the government's adoption of a more rational pricing policy.

An unqualified acceptance of past trends as a basis of future projections is clearly out of the question in the case of Turkey.

Turkish exports declined from their Korean War peak and became relatively stagnant up to the late 1950's; only with price stabilization and devaluation have they reached or exceeded those early heights. We have in most cases depended jointly upon three basic sources of information in making projections of future exports earnings. The first is an examination of historical growth rates of the export components since the mid-1950's. The second involves the qualified use of Plan projections of future production of the major export items. The third relies on the implications of Balassa's estimates of future commodity import demands. (It should be noted that Turkey is included, unfortunately for our purposes, among the industrialized Western European nations in Balassa's projections: see B. Balassa, Trade Prospects for Developing Countries).

The more general form of the export function should be written as:

$$E^i = P^i_t \bar{E}^i (1 + r^i)^t,$$

where $\bar{E}^i$ is export value of the good i in the base year, P^i_t is the price index in the year t relative to the base year = 1.00, and r^i is the rate of growth of quantum exports of the good i. We have already explained our apparent disregard of domestic demand. Given the crude nature of our projections and given that Balassa's figures are in export values, this form does not appear to be as useful as an even simpler one written as:

$$E^i = \bar{E}^i (1 + r^i)^t,$$

where the E's are defined as above but r^i is the rate of growth of export earnings attributable to the commodity i. This is the form we have used

throughout. (In computing historical rates of growth, we express the export components in U.S. $.)

Balassa's estimates of future rates of growth in the developed countries' imports of cotton (in current values) is likely to be less relevant given Turkey's position as a marginal supplier. Nevertheless, we present his estimates for comparison. For the developed countries as a group, r^c ranges between .016 and .024, while for Western Europe the range is lower (due in part to Turkish intra-exports), between .010 and .019. The Plan, on the other hand, projects a very rapid increase in both cotton production and quantum exports. Exports have a planned increase of approximately 6.5% while since 1955 cotton export values have increased at an average rate of 5.6%: the 1962 level is still below that of the 1953 peak however. If we accept Balassa's assumption of a decline in cotton export prices of about 6-7% by 1975, then the projected Plan quantum figure comes closer to 6.0% in terms of cotton export revenue. This estimate seems somewhat optimistic given that Turkey has been able to generate a growth rate in cotton export revenue since 1955 of only 5.6%. It seems especially optimistic given that the growth rate of 5.6% was attained while recovering the Korean War peak and given that future cotton expansion will require significant investments in irrigation. In the projections we have assumed a rate of 4.5% although we recognize that this may underestimate the performance of the First Five Year Plan (the growth has continued rapid between 1962 and estimated 1964). Thus we have:

$$(5a)\quad E^c = \bar{E}^c\,(1 + r^c)^t, \qquad \text{where } r^c = .045.$$

Tobacco exports present us with more difficult estimation problems since supply limits are more severe. Turkey has already begun to use marginal lands exhibiting inferior yields for tobacco production. In fact the Plan realistically projects a rate of growth of quantum tobacco exports of only 0.8%. Balassa estimates a range for Western Europe import demands lying between 2.7% and 3.6% per annum and, somewhat in conflict with other evidence, does not foresee any major change in the Greek and Turkish share in the Common Market's projected consumption. In the decade of the 1950's there has been a trend rate of growth in both quantum and value exports not far different from zero. Given the possibility of long range price improvements we have:

$$(5b) \quad E^{T} = \bar{E}^{T} (1 + r^{T})^{t}, \qquad \text{where } r^{T} = .010.$$

Balassa's estimates for the rate of growth of imports of dried fruits paints a far brighter picture for Turkey than is the case for tobacco export revenues. He foresees rather rapid increasing demands for such products: the range of rates of growth of import values are 4.5% to 5.3% for Western Europe and 4.5% to 5.5% for the developed nations as a group. However, a large portion of this increase is to take place in preserved fruits and fruit preparations rather than dried fruits. The export target of the Plan is 3.8% per annum while since 1950 E^{df} has grown at a rate of approximately 5.8%. Given a mild shift into preserved fruit and fruit preparations and given the mild retardation in E^{df} between 1961 and the 1964 estimate, we take for our projection a figure lying between Balassa's lower bound and the planned rate:

$$(5c) \quad E^{df} = \bar{E}^{df} (1 + r^{df})^{t}, \qquad \text{where } r^{df} = .040.$$

Balassa's projections for fresh fruits and nuts are much less useful since hazelnuts dominate this export class in Turkey while fresh fruits loom largest in Balassa's projections. To further reduce the usefulness of Balass's projections, Turkey is a marginal supplier of fresh fruits to the European market. Balass's research does not project future price variations in this export component but given that Turkey supplies approximately 75-80% of the world market in hazelnuts continued rapid expansion in E^n may continue to depress prices. The plan makes rather optimistic projections of quantum exports in the neighborhood of 6.9%. This assumption does not appear unwarranted given that historically E^n has grown at the rate of 10.8%. In the fact of a likely decline in hazelnut prices, rate of growth of 7.0% seems most probable and is not very different from that being used in projections by many OECD experts. Thus, we estimate that

$$(5d) \qquad E^n = \bar{E}^n (1 + r^n)^t, \qquad\qquad \text{where } r^n = .070.$$

Turkey's experience in the 1950's with the exports of chrome and chrome concentrates (as with other mineral exports) has been especially disappointing and the most recent behavior of this component has been no better. On the contrary, export revenues derived from E^{ch} have continued their declining trend which began after the Korean War peak. As a result, Turkey's share in the world market has continued to decline while the Russian and Rhodesian shares have increased. Russian export policies are unlikely to change in the future and the United States barter agreement has failed. In the face of this depressing evidence the planned

target of 5.1% per annum seems grossly unrealistic. Even possible changes in Turkish transportation costs are unlikely to accelerate greatly the future growth of E^{ch}. As a result we have projected a rate which closely agrees with the current opinions of Turkish and OECD economists:

$$(5e) \quad E^{ch} = \bar{E}^{ch} (1 + r^{ch})^{t}, \qquad \text{where } r^{ch} = .010.$$

The composition of E^{o} is quite diverse. Between 1951-61 this catchall component exhibits a negative rate of growth. For the period since the Korean War peak, E^{o} has been growing at the very modest rate of 1.2%. The rate of growth of this export component has accelerated, however, in recent years. Cereals, sugar and minerals other than chromium show little in the form of future export possibilities. Livestock exports are likely to undergo only moderate growth. On the other hand, petroleum and petroleum products show great promise which has been partially confirmed by the rapid expansion between 1961 and the first half of 1964. Manufactured products, a small component, can be expected to reveal little significant promise until Turkey reaches the level of industrialization and diversification attained already by Greece and Yugoslavia. It would appear that Turkey needs more experience in import subsititution before she can become a significant competitor in unsophisticated manufactured products or in processed industrial raw materials. On balance, therefore, E^{o} has only modest export possibilities until the early 1970's when it may become a dynamic source of commodity export growth.

We have assumed that the most recent mild upward shift in E^o growth will be sustained in the future and that:

$$(5f) \quad E^o = \bar{E}^o (1 + r^o)^t , \qquad \text{where } r^o = .030.$$

The rate of growth of service exports is one of the few components in the Turkish export bundle which has undergone rapid growth throughout the decade of the 1950's and early 1960's. A part of this increase is due to increased government sales in the form of offshore purchases. Nevertheless other components have increased rapidly as well, most notably tourism. The overall rate of growth of E^s has been 13.4% but the latter portion of our period of observation reveals considerable retardation. It does not seem likely that government exports of services will continue at the rapid rate of the past but tourism has excellent possibilities and is emphasized in the Plan. (In fact 1.5 percent of the planned investment is allocated to tourism over the five year period). As a result we have assumed in our projections a rate of growth of 8.5%. Thus we have:

$$(5g) \quad E^s = \bar{E}^s (1 + r^s)^t, \qquad \text{where } r^s = .085.$$

In summary form, equations (5a), (5b), (5c), (5d), (5e), (5f), and (5g) can be aggregated into an overall export function where:

$$E = E^c + E^T + E^{df} + E^n + E^o + E^s ,$$

$$E = \bar{E}^c (1.045)^t + \bar{E}^T (1.010)^t + \bar{E}^{df} (1.040)^t + \bar{E}^n (1.070)^t + \bar{E}^{ch} (1.010)^t + \bar{E}^o (1.030)^t + \bar{E}^s (1.085)^t .$$

Some of the implications of these assumed export functions should be obvious but emphasis might still prove helpful. We have

onstructed a table below which indicates the impact of these saggregated growth patterns upon the composition of the future export undle.

	1960	1975
$E^s/\Sigma E^i$	25.1	40.0
$E^i/\Sigma E^i - E^s$:		
E^c	15.3	17.3
E^T	22.9	15.6
E^{df}	8.0	8.4
E^n	14.5	23.5
E^{ch}	3.4	2.3
E^o	36.0	32.9

The major shifts in the export composition are the increased ervice share along with the declining importance of tobacco and ncreasing importance of fresh fruits and nuts.

The overall export growth rate which these functions project ccelerates over time: between 1960 and 1965 total exports grow at a rate equal to .047 while the historical growth in V is projected at .050 or the same period; between 1965 and 1970, the two growth rates converge t .051; between 1970 and 1975, export growth exceeds that of V where the former is .055 and the latter .052. This suggests an eventual improvement in export potential towards the end of our projected period -- especially so given the likely increased potential in E^o by the early 1970's.

It should be stressed, however, that the growth in commodity exports is very unimpressive: for 1960-65, .035; 1965-70, .037; 1970-75, .039. If our assumptions regarding the future rapid growth of E^s are wide of the mark, then the future of Turkish exports is all the more unpromising until she can gain experience in domestic import substitution and apply this experience to the export of manufactures and processed natural resource items.

6. Future Workers' Remittances

The conventional procedure in the projections of the 1964 Summer Research Project has been to estimate only the balance of payments gap (M-X) surplus or deficit on current account--leaving the question of means of finance as a separate issue. In the Turkey study we have made no attempt to predict the potential role that private capital might play, in the form of direct or security investment, in bridging the M-X gap.

Future flows of workers' remittances as a source of foreign exchange to the Turkish economy may become quite significant. Nevertheless, there is little historical evidence upon which to predict this credit component of the balance of payments. As a result, we treat the problem of workers' remittances separately in this section and will include these potential flows in the key estimate projections under the heading "Capital Flow other than Public Funds." In this

m, this part of our M-X projections can be more readily revised with accumulation of more experience regarding their expected behavior.

In the past few years, the migration of Turkish unskilled and i-skilled labor to Western Europe has accelerated. The estimated size the Turkish labor force in Western Europe, primarily in West Germany Belgium, was 1,500 in 1961. In 1963 the figure had reached 40,000 le the estimated 1964 level lies between 90,000-100,000 workers. Based linear extrapolations, projections by AID and by the State Planning anization (SPO) predict a level of 500,000 by 1972. Thus far, the impact this migration upon net foreign exchange earnings, via remittances, has quite small. Some remittances are being made to Turkey through con- ional banking channels but a much larger portion of the migrants savings xpended on durable goods for resale in Turkey or contributes to other s of foreign exchange leakage (see A.D. Redding, *Increasing Foreign ange Remittances by Turkish Workers*, AID/Mission Staff Paper, January).

Recognizing these remittances as a potential and significant source oreign exchange earnings, the Turkish government is considering, or is in process of implementing procedures which would create a greater inducement emittance flow. All of these techniques have, of course, a common denomi- r: setting an equivalent exchange rate premium on such remittances.

Given that the Turkish government will indeed make a serious effort in facilitating these flows, we have accepted the AID/SPO projections as first approximations. These estimates suggest a level of workers' remittances of 20 million dollars by 1965, 110 million dollars by 1970, and 200 million dollars by 1975. (This, it should be noted, would amount to about one quarter of Turkish export earnings from exports of all goods and services). It should be re-emphasized, however, that there is little or no historical information by which to gauge the rough accuracy of these projections. They can only be treated as very rough measures of potential flows and should be revised in the near future accordingly.

7. Summary

For the reader's convenience we summarize below the functions which are discussed in detail in other sections and which we have used in making our projections.

$$V = \text{GDP at factor cost} = \Sigma V_i \,, \qquad i = 1, 2 \ldots\ldots 8,$$

and the V_i are the value added in the following sectors: (1) agriculture; (2) mining and quarrying; (3) capital goods manufacturing; (4) non-capital goods manufacturing; (5) electricity, gas and water; (6) construction; (7) transportation and communications; (8) all other.

The rate of growth of the i^{th} sector or commodity export is given as r_i, while a "bar" over a variable indicates the base period. The base period for exports and its components is the average for 1960-61; in all other cases the base year refers to a 1959-61 average where the variable is expressed in constant prices.

Investment (Gross Domestic Fixed):

$$I^f = I^{em} + I^{rh} + I^p + I^o$$

investment in housing (private and public building construction) $I^{rh} = .052\,\bar{V}(1+r)^t$

other gross fixed investment (mainly public works) $I^o = .614\,r\bar{V}(1+r)^t$

investment in machinery and equipment $I^{em} = 2.320\,r_{234567}\,\bar{V}_{234567}(1+r_{234567})^t$

investment in plant (state and private construction of commercial and industrial buildings) $I^p = .363\,r_{234573}\,\bar{V}_{234578}(1+r_{234578})^t$

Savings (Gross National):

$$S = S^d + S^o + (T^d + T^i) - (G^{df} + G^{ndf})$$

depreciation allowances $S^d = .254\,(I^f - \bar{I}^f) + \bar{S}^d$

other savings (private businesses, households, state enterprises) $S^o = .0743\,[\,(V-T^d-T^i) - (\bar{V}-\bar{T}^d-\bar{T}^i)\,] + \bar{S}^o$

savings out of current revenue by the central government $S^g = (T^d+T^i) - (G^{df}+G^{ndf})$

current government expenditures $G = \bar{G}(1+r_g)^t$, where $\begin{cases} r_g = .035 \\ r_g = r_V \end{cases}$

(r_g = rate of growth of current government expenditures; r_V = rate of growth of GDP.)

direct government taxes $T^d = \bar{T}^d(1+1.1044\,r_{2345678})^t$

all other government taxes $T^i = \bar{T}^i\,(1+.9238\,r_{2345678})^t$.

Exports of Goods and Services (f.o.b.):

$$E = E^{o} + E^{T} + E^{df} + E^{n} + E^{ch} + E^{o} + E^{s}$$

cotton exports $E^{c} = \bar{E}^{c} (1+.045)^{t}$

tobacco exports $E^{T} = \bar{E}^{T}(1+.010)^{t}$

dried fruits exports $E^{df} = \bar{E}^{df} (1+.040)^{t}$

fresh fruits and nuts exports $E^{n} = \bar{E}^{n}(1+.070)^{t}$

chrome and chrome concentrates exports $E^{ch} = \bar{E}^{ch}(1+.010)^{t}$

other commodity exports $E^{o} = \bar{E}^{o} (1+.030)^{t}$

service exports $E^{s} = \bar{E}^{s}(1+.085)^{t}$.

Imports of Goods (c.i.f.) and Services:

$$M = M^{c-fe} + M^{r} + M^{bm} + M^{o} + M^{em} + M^{s} + M^{fu}$$

imports of chemicals less fertilizers $M^{c-fe} = .054\ V_{34}$

imports of raw materials $M^{r} = .036\ V_{34}$

imports of fuels $M^{fu} = .043\ V_{3457}$

imports of base metals $M^{bm} = .039\ V_{346}$

all other commodity imports $M^{o} = .022\ V$

or $M^{o} = .043\ V$

imports of machinery and equipment $M^{cm} = 2.320\ r_{234567}\ \bar{V}_{234567}(1+r_{234567})^{t} - 2V_3$

imports of services $M^{s} = \bar{M}^{s} + .0571[(V-V_1)-(\bar{V}-\bar{V}_1)]$

excludes interest on the public debt. Value added in the capital oods sector, V_3, is given in the linear form as:

$$V_3 = 73.7 + 26.6\,t$$

here V_3 is valued in 1961 factor cost prices and is in millions of L ($t = 9 = 1960$). In the exponential form, V_3 is written as:

$$V_3 = \bar{V}_3\ (1 + .164)^{t}.$$

3. The Initial Conditions and Projected Growth Rates for Exogenous Variables

In the key estimates which follow* we employ the estimated tructure derived in sections 2-7 in evaluating investment, savings, mports and exports and the corresponding Investment-Savings (I-S) and Balance of Payments (M-X) gaps for 1965, 1970 and 1975. There are sixteen such key estimates which cover a fairly wide range of possible alternatives facing the Turkish economy. These alternative projections result from variations in assumed growth performance as well as certain selected parameters.

H. In all cases following this introduction, the key estimates identified

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1*/ See Appendix A Below.

by an "H" refer to projections based upon rates of growth of sectoral value added implied by historical experience. These rates are derived from an examination of the period 1951/53-1959/61.

$r_1 =$ 2.7% (agriculture)

$r_2 =$ 2.6% (mining and quarrying)

$r_{34} =$ 5.0% (manufacturing)

$r_5 =$ 12.9% (electricity, gas and water)

$r_6 =$ 5.6% (construction)

$r_7 =$ 9.1% (transportation and communications)

$r_8 =$ 6.6% (all other: services).

In the first line of the key estimate tables we indicate the projected overall growth rates which these sectoral growth rates produce. Over the decade 1951-1961 the rate of growth of Y(=GDP) was 4.7%: from 1960-1965 the rate is 5.0%; from 1965-1970, 5.1%; and from 1970-1975, 5.2%. This appears to us to be the more reasonable projection of future Turkish growth performance and Turkey's experience between 1961-1963 seems very close to it (if we disregard the recent unusual bumper crop conditions in agriculture). Thus our historical projections are likely to be more relevant for policy conclusions.

The key estimates identified by a "P" refer to sectoral growth rates implied in the First Five Year Development Plan, 1963-1967. The computed compound rates of growth by sector are listed below.

$$\left.\begin{array}{l} r_1 = 4.2\% \\ r_2 = 9.3\% \\ r_{34} = 12.9\% \\ r_5 = 13.0\% \\ r_6 = 7.1\% \\ r_7 = 10.5\% \\ r_8 = 7.2\% \end{array}\right\} \text{(sectors identified as above)}$$

The overall growth rates that these sectoral rates imply are very high and seem to us quite unrealistic: from 1960-1965, they project an overall growth rate of V of 7.3%; from 1965-1970, 7.5%; and from 1970-1975, 7.7%. These estimates seem in excess of the capacities of the Turkish economy, especially over an extended period of fifteen years, without tremendous inputs of foreign aid which are not likely to be forthcoming.

Whatever the judgment, it seemed a valuable exercise to project the Plan rates and attempt to determine their impact upon the gaps. The more reasonable growth projections based upon historical experience suggest a respectable rate of growth of per capita income of 2.3% per annum by 1975 (assuming a population growth rate of 2.9% continuing into the future).

a. The lower case letter "a" identifies those projections which assume

considerable austerity in the Turkish economy--a condition less typical of the decade of the 1950's. They refer to optimistic savings projections which assume rapid increases in S^g due to restraint on the rate of expansion of current government expenditures (r_g = 3.5%, or a rate not far exceeding that of population growth). This low figure for r_g seems to us unlikely but is included only to show its impact upon the marginal savings ratio.

c. On the other hand, we make the more reasonable assumption that the Turkish planners will be successful in keeping G at a fixed ratio to V or that $r_g = r_V$. This set of projections is identified by a lower case "c" (cornucopia). This alternative assumption is more consistent with both historical experience and the Plan.

e. The lower case "e" refers to the projected performance of the domestic capital goods sector. Here we assume that V_3 continues to enjoy an exponential growth rate based upon a historical rate (1951/53 - 1959/61) equal to 16.4%. As we indicate in section 4, this rate is an optimistic evaluation of the capacities of the Turkish economy to substitute for capital goods imports. Nevertheless, the rate still is less than that assumed by the Plan and given that our model does not allow for import substitution in base metals, the overall implication of the key estimates "e" may not be unrealistic at all.

ℓ. The letter "ℓ" indicates a less optimistic assumption concerning the growth performance of V_3. Here we project V_3 linearly into the future, based upon the historical rate, where $V_3 = 73.7 + 26.6\,t$ and where $t = 9 = 1960$ and V_3 is valued in 1961 prices (millions of TL).

r. The letter "r" refers to our assumption regarding restrictions on consumer goods imports. It assumes that foreign exchange controls on M^o will continue into the future and thus projects key estimates by using (4a).

f. The letter "f" assumes no restrictions on M^o under free market conditions. This seems an unlikely possibility but is included simply to make an examination of its impact upon the (M-X) gap possible. Thus, we use (4a') in these key estimate projections.

In summary, we might indicate what we feel to be the most likely set of conditions which will prevail in the future. Of the sixteen possibilities, H-c-ℓ-r and H-c-e-r seem the most relevant key estimates for policy conclusions. Both of these assume historical sectoral growth rates, continued restrictions on consumer goods imports, and success in maintaining current government expenditures at some fixed ratio to GDP. The difference lies in assumptions about import substitution in the capital goods sector. H-c-ℓ-r assumes linear growth in V_3 while H-c-e-r assumes an exponential rate.

The Base Period Data

1. Value added figures are averages for 1959-61 in 1961 prices.

$\bar{V}_1 = 19,715$ millions of Turkish Lira
$\bar{V}_2 = 801$
$\bar{V}_{34} = 6,805$ $\quad \bar{V}_3 = 340$
$\bar{V}_5 = 361$
$\bar{V}_6 = 3,155$
$\bar{V}_7 = 3,900$
$\bar{V}_8 = \underline{14,388}$
$\text{GDP} = \bar{V} = \Sigma V_i = 49,075$

2. The following aggregates are also averages for 1959-61 in 1961 prices.

$\bar{S}^o = 2,894 \qquad \bar{T}^i = 4,610$
$\bar{S}^d = 2,319 \qquad \bar{T}^d = 2,320$
$\bar{I}^f = 7,690 \qquad (\bar{V}-\bar{T}) = 42,168$
$\bar{G} = 5,717$

3. The following foreign trade data are averages for 1960-61.

$\bar{M}^s = 842 \qquad \bar{E}^n = 436$
$\bar{E}^c = 459 \qquad \bar{E}^{ch} = 102$
$\bar{E}^T = 687 \qquad \bar{E}^o = 1,082$
$\bar{E}^{df} = 240 \qquad \bar{E}^s = 1,006.$

Conclusions

Some of the sixteen key estimates presented below are clearly more ikely than others. Two of the projections which are based on historical rowth rates seem especially probable: H-c-ℓ-r and H-c-e-r. In the first lace, the projected plan growth rates appear to be beyond the present apacities of the Turkish economy and thus our H projections assume more elevance. At the same time, it does not appear that Turkish planners will e able to maintain the degree of austerity implied by our "a" projections. inally, exchange control will be with the Turks for some time and thus our ow estimates of M^o (the "r" key estimates) are more probable. H-c-ℓ-r nd H-c-e-r have been judged, therefore, as being most representative of uture Turkish performance.

Among the key estimates projected by plan growth rates, we can lso single out two that appear especially reasonable *given that Plan growth ates are indeed achieved*. These are the key estimates P-c-e-r and P-a-e-r. oth of these assume continued control on the level of M^o and project the rate f growth of the domestic capital goods exponentially (at 16.4%). The latter ssumption would appear to be more defensible given that Plan growth rates are chieved. We might first note that in *all* sixteen key estimates the (M-X) gap xceeds the (I-S) gap by a substantial margin. Turkey does appear destined to emain in Phase III[*] with the foreign exchange constraint persisting as the ajor barrier to the achievement of either historical or planned growth rates.

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[*] During Phase III the foreign capital assistance requirements of a country re related to the excess of its imports over exports (M-X gap) rather than the ifference between investment and savings (I-S gap). For a more detailed explanaion see Chenery and Strout, *Foreign Assistance and Economic Development*, A.I.D. iscussion Paper No. 7

On the average, the net payments gap (B^*) is at least twice that of the (I-S) gap while in many cases the former is many times greater than the latter. Furthermore, under assumptions of planned growth rates even the most optimistic projections of import substitution in M^{em} and control of M^o does not reverse the increasing trend in the net balance of payments gap. In four cases, however, B^* begins to show improvement within our fifteen year projection period. H-c-e-r, H-a-e-r, H-a-e-f, and H-c-e-f all show the payments gap peaking in 1970 and declining thereafter (but not disappearing by 1975). Each of these four key estimates have one assumption in common--exponential growth in V_3. It appears that only projections involving rapid import substitution show significant promise in removing Turkish balance of payments constraints in the future.

The inclusion of our optimistic projections of workers' remittances does not change this general picture a great deal. The primary impact of such potential remittances would be to generate a net payments gap peak by 1965, instead of 1970, in those four key estimates assuming exponential growth in V_3.

The behavior of the (I-S) gap suggests Turkey's maturity in financing her own future growth. Under historical growth rates the (I-S) gap reaches a peak either in 1970 or, assuming austerity, in the base year itself. These comments do not hold, of course, for Plan growth rates, but the relative size of the gap, (I-S)/I, declines throughout under the assumption of austerity conditions. Our own feeling is that the projections of the (I-S) gap are the more reliable. Although the marginal capital output ratio may appear somewhat low to some readers, this would in any case be offset by our low estimates of the marginal savings ratio (see section 3 above).

A number of inescapable conclusions would appear to arise from this preliminary study. First, a great deal more research must be done on the possibilities and recent progress of import substitution in machinery and equipment and in base metals. The most recent Plan experience with both has been less than encouraging. Without such progress in the immediate future, even tighter controls on M^O must surely result in lieu of substantial increases in foreign aid commitments. Secondly, most of the aggressive efforts of the Turkish government to increase net foreign exchange earnings has been via encouragement of tourism. This seems a tenuous base at best on which to project rapid export expansion in the future. Not enough sincere effort has been expended on the export problem and this is best reflected by the delays and barriers to petroleum exports as well as unintelligent freight rate schemes applied to other extractive products. In our judgment more effort should be directed to the possibilities of export expansion in both unsophisticated manufactures and processed extractive products.

APPENDIX

The data given in the following 16 tables has been developed for sixteen combinations of assumptions about growth rates, savings, government expenditures, domestic production of capital goods, and restrictions on imports. A discussion of these estimates is given on pages 38 through 42 of the text.

The seventh and eighth rows of the appendix tables ("Imports-Exports = B*") give, in billions of Turkish lira and millions of dollars respectively, the balance of payments deficit on current account excluding interest on the public debt outstanding.

The next four rows in the tables indicate the total balance of payments deficit on current account and are denoted by the variable B. B is equal to B * plus the interest on the debt outstanding and varies with the four assumptions on debt service (t=maturity, i=interest rate, g=grace period).

The gross inflow of public funds is the total balance of payments deficit, which includes both the current and capital accounts. It is equal to B (the total deficit on current account) minus capital flow other than public funds, plus amortization payments on the public debt outstanding. It indicates the gross magnitude of official grants and loans which must be made to the government of Turkey in 1965, 1970 and 1975 to provide the net assistance denoted by B *.

AID/[illegible] estimates

COUNTRY: TURKEY

key estimate: H-c-e-r

valuation: 1959-61 TL bil.; $ mil.

Basic assumptions specification:
Historical growth by sectors; fixed share in G; exponential growth in V_3; exchange restrictions on M^0.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.050	.051	.052
INVESTMENT (bil. TL)		7.7	9.2	12.5	16.3
SAVINGS (bil. TL)		6.4	8.6	11.8	16.3
INVESTMENT - SAVINGS (bil. TL)		1.3	0.6	0.7	0.0
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	6.4	8.0	9.3
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	1.3	1.5	0.8
TOTAL BALANCE OF PAYMENTS = B ($ million)		$ mil 110 d/	144	167	89
Assumptions on debt service:					
t=15, i=.034, g=4	(a)		174	224	158
t=20, i=.030, g=5	(b)		173	217	149
t=25, i=.030, g=5	(c)		173	217	149
t=28, i=.025, g=5	(d)		171	209	138
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)($ mil).			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/	1365	2025	2138
	(b)	1063	1364	2032	2073
	(c)	1063	1364	2002	2073
	(d)	1063	1363	1973	1994
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		341	313	287
	(b)		340	[illegible]	237
	(c)		[illegible]	[illegible]	[illegible]
	(d)		339	[illegible]	206

Notes and observations: a/period: 1951/53 - 1959/61 b/inflow(+), outflow(-)

d/1960

e/Dec. 31, 1963. c/ M, X, B* for 1959-61 base.

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: H-a-1-r

valuation: 1959-61 TL bil.; $ mil.

Basic assumptions specification:
Historical growth by sectors; government "austerity"; linear growth in V_3; exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.050	.051	.052
INVESTMENT (bil. TL)		7.7	9.2	12.5	16.3
SAVINGS (bil. TL)		6.4	9.1	13.2	19.0
INVESTMENT - SAVINGS (bil. TL)		1.3	0.1	- 0.7	- 2.7
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	7.0	9.9	13.5
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B*(bil. TL)		0.9	1.9	3.4	5.0
TOTAL BALANCE OF PAYMENTS = B ($ million)		$mil. 110 d/	211	378	556
Assumptions on debt service: See page A-1	(a)		242	459	710
	(b)		241	450	690
	(c)		241	450	690
	(d)		240	438	666
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/	1487	2980	5200
	(b)		1486	2949	5091
	(c)		1486	2949	5091
	(d)		1485	2910	4957
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		410	557	903
	(b)		409	517	814
	(c)		409	513	793
	(d)		407	501	760

Notes and observations: a/period: 1951/53 - 1959/61

b/inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/1960

e/ Dec. 31, 1963

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: N-a-1-f

valuation: 1959-61 TL bil.; $ mil.

Basic assumptions specification:
Historical growth by sectors; government "austerity"; linear growth in V_3; no exchange restrictions on M^0.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.050	.051	.052
INVESTMENT (bil. TL)		7.7	9.2	12.5	16.3
SAVINGS (bil. TL)		6.4	9.1	13.2	19.0
INVESTMENT - SAVINGS (bil. TL)		1.3	0.1	- 0.7	- 2.7
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	8.3	11.6	15.7
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	3.2	5.1	7.2
TOTAL BALANCE OF PAYMENTS = B ($ million)		$ mil 110 d/	356	567	800
Assumptions on debt service:	(a)		391	682	1033
see page A-1	(b)		390	669	1002
	(c)		390	669	1002
	(d)		388	652	965
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, December 31, ($ mil)	(a)	1063 e/	1752	4208	7835
	(b)		1751	4163	7673
	(c)		1751	4163	7673
	(d)		1749	4107	7476
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		555	750	1310
	(b)		[illegible]	[illegible]	[illegible]
	(c)		555	737	1245
	(d)		555	719	1095

Notes and observations: a/period: 1951/53 - 1959/61

b/inflow(+), outflow(-)

d/1960

e/ Dec. 31, 1963

c/ M, X, B* for 1960-61 base.

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: M-a-e-r

valuation: 1959-61 TL bil.; $ mil.

Basic assumptions specification:

Historical growth by sectors; government "austerity"; exponential growth in V_2; exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.050	.051	.052
INVESTMENT (bil. TL)		7.7	9.2	12.5	16.3
SAVINGS (bil. TL)		6.4	9.1	13.2	19.0
INVESTMENT - SAVINGS (bil. TL)		1.3	0.1	- 0.7	- 2.7
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	6.4	8.0	9.3
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	1.3	1.5	0.8
TOTAL BALANCE OF PAYMENTS = B ($ mil)		$ mil. 120 d/	144	167	89
Assumptions on debt service: See page A-1	(a)		174	224	158
	(b)		173	217	149
	(c)		173	217	149
	(d)		171	209	138
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittance) ($ mil)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/ ↓	1365	2025	2138
	(b)		1364	2002	2073
	(c)		1364	2002	2073
	(d)		1363	1973	1994
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		341	313	287
	(b)		340	281	237
	(c)		340	279	[illegible]
	(d)		329	270	206

Notes and observations: a/ period: 1951/53 v 1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963.

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: M-a-e-f

valuation: 1959-61 TL bil.; $ mil.

Basic assumptions specification:
Historical growth by sectors; government "austerity"; exponential growth in V_3; no exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.050	.051	.052
INVESTMENT (bil. TL)		7.7	9.2	12.5	16.3
SAVINGS (bil. TL)		6.4	9.1	13.2	19.0
INVESTMENT - SAVINGS (bil. TL)		1.3	0.1	- 0.7	- 2.7
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	7.7	9.7	11.5
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	2.6	3.2	3.0
TOTAL BALANCE OF PAYMENTS = B ($ million)		$ bil. 110 d/	289	356	333
Assumptions on debt service: see page A-1	(a)		323	447	480
	(b)		321	436	461
	(c)		321	436	461
	(d)		319	423	437
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/	1630	3252	4773
	(b)	↓	1628	3216	4655
	(c)	↓	1628	3216	4655
	(d)	↓	1627	3170	4513
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		[illegible]	554	[illegible]
	(b)		[illegible]	[illegible]	[illegible]
	(c)		489	502	575
	(d)		[illegible]	[illegible]	541

Notes and observations: a/ period: 1951/53 - 1959/61

b/ inflow(+), outflow(-)

d/ 1960

e/ Dec. 31, 1963

c/ M, X, B* for 1960-61 base.

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: H-c-1-f

valuation: 1959-61 TL bil.; $ mil.

Basic assumptions specification:
Historical growth by sectors; fixed share in G; linear growth in V_3; no exchange restrictions on H^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.050	.051	.052
INVESTMENT (bil. TL)		7.7	9.2	12.5	16.3
SAVINGS (bil. TL)		6.4	8.6	11.8	16.3
INVESTMENT - SAVINGS (bil. TL)		1.3	0.6	0.7	0.0
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	8.3	11.6	15.7
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	3.2	5.1	7.2
TOTAL BALANCE OF PAYMENTS = B ($ million)		$ mil. 110 d/	356	567	800
Assumptions on debt service:	(a)		391	682	1033
See page A-1	(b)		390	669	1002
	(c)		390	669	1002
	(d)		388	652	965
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/	1752	4208	7835
	(b)	↓	1751	4163	7673
	(c)	↓	1751	4163	7673
	(d)	↓	1749	4107	7476
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		559	798	1310
	(b)		557	741	1276
	(c)		557	737	1145
	(d)		555	719	1095

Notes and observations: a/ period: 1951/53-1959/61

b/ inflow(+), outflow(-)

d/ 1960

e/ Dec. 31, 1963

c/ M, X, B* for 1960-61 base.

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: H-c-e-f

valuation: 1959-61 TL bil; $ mil.

Basic assumptions specification:
Historical growth by sectors; fixed share in G; exponential growth in V_3; no exchange restrictions on M^o.

Series description		Base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.050	.051	.052
INVESTMENT (bil. TL)		7.7	9.2	12.5	16.3
SAVINGS (bil. TL)		6.4	8.6	11.8	16.3
INVESTMENT - SAVINGS (bil. TL)		1.3	0.6	0.7	0.0
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	7.7	9.7	11.5
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	2.6	3.2	3.0
TOTAL BALANCE OF PAYMENTS = B ($ million)		$ mil. 110 d/	289	356	333
Assumptions on debt service: See page A-1	(a)		323	447	480
	(b)		321	436	461
	(c)		312	436	461
	(d)		319	423	437
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/	1630	3252	4773
	(b)	↓	1628	3216	4655
	(c)	↓	1628	3216	4655
	(d)	↓	1627	3170	4513
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		490	554	693
	(b)		[illegible]	[illegible]	[illegible]
	(c)		[illegible]	[illegible]	[illegible]
	(d)		467	[illegible]	543

Notes and observations: a/ period: 1951/53 - 1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: P-a-c-r

valuation: 1959-61 TL bil; $ mil.

Basic assumptions specification:
Plan growth by sectors; government "austerity"; exponential growth in V_3; exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: GOP		.047 a/	.073	.075	.077
INVESTMENT (bil. TL)		7.7	14.8	24.0	39.3
SAVINGS (bil. TL)		6.4	12.2	21.1	36.0
INVESTMENT - SAVINGS (bil. TL)		1.3	2.6	2.9	3.3
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	11.0	18.4	30.4
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	5.9	11.9	21.9
TOTAL BALANCE OF PAYMENTS = B ($ million)		$mil. 10 d/	656	1322	2433
Assumptions on debt service:	(a)		700	1534	2979
See page A-1	(b)		697	1508	2907
	(c)		697	1508	2907
	(d)		694	1476	2821
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/	2301	7890	18,984
	(b)	↓	2298	7811	18,652
	(c)	↓	2298	7811	18,652
	(d)	↓	2295	7713	18,248
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		867	1666	3504
	(b)		864	[illegible]	[illegible]
	(c)		864	1586	3168
	(d)		1041	1552	3052

Notes and observations: a/ period: 1951/53 - 1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: P-c-e-r

valuation: 1959-61 TL bil; $mil.

Basic assumptions specification:
Plan growth by sectors; fixed share in G; exponential growth in V_3; exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.073	.075	.077
INVESTMENT (bil. TL)		7.7	14.8	24.0	39.3
SAVINGS (bil. TL)		6.4	10.8	17.3	28.0
INVESTMENT - SAVINGS (bil. TL)		1.3	4.0	6.7	11.3
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	11.0	18.4	30.4
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	5.9	11.9	21.9
TOTAL BALANCE OF PAYMENTS = B ($ million)		$mil. 110 d/	656	1322	2433
Assumptions on debt service: See page A-1	(a)		700	1534	2979
	(b)		697	1508	2907
	(c)		697	1508	2907
	(d)		694	1476	2821
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/ ↓	2301	7890	18,984
	(b)		2298	7811	18,652
	(c)		2298	7811	18,652
	(d)		2295	7713	18,248
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		867	1685	3504
	(b)		[illegible]	[illegible]	[illegible]
	(c)		854	[illegible]	3162
	(d)		1041	1592	[illegible]

Notes and observations: a/ period: 1951/53-1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: P-c-l-r

valuation: 1959-61 TL bil.; $mil.

Basic assumptions specification:
Plan growth by sectors; fixed share in G; linear growth in V_3; exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.073	.075	.077
INVESTMENT (bil. TL)		7.7	14.8	24.0	39.3
SAVINGS (bil. TL)		6.4	10.8	17.3	28.0
INVESTMENT - SAVINGS (bil. TL)		1.3	4.0	6.7	11.3
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	11.5	20.3	35.6
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B*		0.9	6.4	13.8	27.1
TOTAL BALANCE OF PAYMENTS = B ($ million)		$mil. 110 d/	711	1533	3011
Assumptions on debt service:	(a)		756	1767	3648
See page A-1	(b)		753	1739	3565
	(c)		753	1739	3565
	(d)		750	1704	3464
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/	2401	8793	22,332
	(b)	↓	2398	8706	21,956
	(c)		2398	8706	21,956
	(d)		2395	8599	21,498
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		923	1956	4234
	(b)		923	[illegible]	[illegible]
	(c)		921	1818	3846
	(d)		917	1781	3719

Notes and observations: a/ period: 1951/53-1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: P-c-1-f

valuation: 1959-61 TL bil; $mil.

Basic assumptions specification:
Plan growth by sectors; fixed share in G; linear growth in V_3; no exchange restrictions on M^o.

Series description	base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c}$	.047 a/	.073	.075	.077
INVESTMENT (bil. TL)	7.7	14.8	24.0	39.3
SAVINGS (bil. TL)	6.4	10.8	17.3	28.0
INVESTMENT - SAVINGS (bil. TL)	1.3	4.0	6.7	11.3
c/ IMPORTS, current account excluding interest on debt (bil. TL)	5.1	13.0	22.5	38.8
EXPORTS, current account (bil. TL)	4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)	0.9	7.9	16.0	30.3
TOTAL BALANCE OF PAYMENTS = B ($ million)	$mil. 110 d/	878	1778	3367
Assumptions on debt service: See page A-1 (a)		928	2054	4105
(b)		924	2020	4008
(c)		924	2020	4008
(d)		920	1978	3892
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)		20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil) (a)	1063 e/ ↓	2705	10,292	25,764
(b)		2703	10,189	25,323
(c)		2703	10,189	25,323
(d)		2699	10,063	24,786
GROSS INFLOW OF PUBLIC FUNDS ($ mil) (a)		1095	2233	4793
(b)		1092	[illegible]	4336
(c)		1092	2105	4336
(d)		1087	2060	4150

Notes and observations: a/ period: 1951/53-1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: P-c-e-f

valuation: 1959-61 TL bil; $mil.

Basic assumptions specification:
Plan growth by sectors; fixed share in G; exponential growth in V_3; no exchange restrictions in M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.073	.075	.077
INVESTMENT (bil. TL)		7.7	14.8	24.0	39.3
SAVINGS (bil. TL)		6.4	10.8	17.3	28.0
INVESTMENT - SAVINGS (bil. TL)		1.3	4.0	6.7	11.3
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	12.4	20.5	33.6
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	7.3	14.0	25.1
TOTAL BALANCE OF PAYMENTS = B ($ million)		$mil. 110 d/	811	1556	2789
Assumptions on debt service:	(a)		859	1806	3432
See page A-1	(b)		856	1776	3347
	(c)		856	1776	3347
	(d)		852	1738	3246
b/ CAPITAL FLOW, OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31, ($ mil)	(a)	1063 e/	2584	9302	22,288
	(b)	↓	2581	9208	21,895
	(c)	↓	2581	9208	21,895
	(d)	↓	2577	9092	21,417
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		1066	1977	4053
	(b)		[illegible]	[illegible]	[illegible]
	(c)		[illegible]	[illegible]	[illegible]
	(d)		1010	1816	3510

Notes and observations: a/ period: 1951/53-1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ December 31, 1963

AID/SRP:estim.tes

COUNTRY: TURKEY

Key estimate: P-a-l-r

Valuation: 1959-61 TL bil.; $mil.

Basic assumptions specification:
Plan growth by sectors; government "austerity"; linear growth in V_3; exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.073	.075	.077
INVESTMENT (bil. TL)		7.7	14.8	24.0	39.3
SAVINGS (bil. TL)		6.4	12.2	21.1	36.0
INVESTMENT - SAVINGS (bil. TL)		1.3	2.6	2.9	3.3
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	11.5	20.3	35.6
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	6.4	13.8	27.1
TOTAL BALANCE OF PAYMENTS = B ($ million)		$mil. 110 d/	711	1533	3011
Assumptions on debt service:	(a)		756	1767	3648
See page A-1	(b)		753	1739	3565
	(c)		753	1739	3565
	(d)		750	1704	3464
b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/	2401	8793	22,332
	(b)	↓	2398	8706	21,956
	(c)	↓	2398	8706	21,956
	(d)	↓	2395	8599	21,498
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		923	1986	4654
	(b)		[illegible]	[illegible]	[illegible]
	(c)		921	1616	3546
	(d)		917	1781	3719

Notes and observations: a/ period: 1951/53 - 1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963.

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: P-a-1-f

valuation: 1959-61 TL bil; $ mil.

Basic assumptions specification:
Plan growth by sectors; government "austerity"; linear growth in V_3; no exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.073	.075	.077
INVESTMENT (bil. TL)		7.7	14.8	24.0	39.3
SAVINGS (bil. TL)		6.4	12.2	21.1	36.0
INVESTMENT - SAVINGS (bil. TL)		1.3	2.6	2.9	3.3
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	13.0	22.5	38.8
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IMPORTS - EXPORTS = B* (bil. TL)		0.9	7.9	16.0	30.3
TOTAL BALANCE OF PAYMENTS = B ($ million)		$mil. 110 d/	878	1778	3367
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See page A-1	(b)		924	2020	4008
	(c)		924	2020	4008
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PUBLIC DEBT OUTSTANDING, Dec. 31 ($ mil)	(a)	1063 e/ ↓	2706	10,292	25,764
	(b)		2703	10,189	25,323
	(c)		2703	10,189	25,323
	(d)		2699	10,063	24,786
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		1095	2233	4793
	(b)		1092	2119	4416
	(c)		1092	2105	4336
	(d)		1087	2060	4190

Notes and observations: a/ period: 1951/53-1959/61

b/ inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963.

AID/SRP:estimates

COUNTRY: TURKEY

key estimate: P-a-c-f

valuation: 1959-61 TL bil; $mil.

Basic assumptions specification:
Plan growth by sectors; government "austerity"; exponential growth in V_3; no exchange restrictions on M^o.

Series description		base period	1965	1970	1975
OVERALL RATE OF GROWTH of: $GDP_{f.c.}$		.047 a/	.073	.075	.077
INVESTMENT (bil. TL)		7.7	14.8	24.0	39.3
SAVINGS (bil. TL)		6.4	12.2	21.1	36.0
INVESTMENT - SAVINGS (bil. TL)		1.3	2.6	2.9	3.3
c/ IMPORTS, current account excluding interest on debt (bil. TL)		5.1	12.4	20.5	33.6
EXPORTS, current account (bil. TL)		4.2	5.1	6.5	8.5
IMPORTS - EXPORTS = B* (bil. TL)		0.9	7.3	14.0	25.1
TOTAL BALANCE OF PAYMENTS = B ($ mil)		$mil. 110 d/	811	1556	2789
Assumptions on debt service:	(a)		859	1806	3432
See page A-	(b)		856	1776	3347
	(c)		856	1776	3347
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b/ CAPITAL FLOW OTHER THAN PUBLIC FUNDS, net (workers' remittances)			20	110	200
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	(b)		2581	9208	21,895
	(c)		2581	9208	21,895
	(d)	↓	2577	9092	21,417
GROSS INFLOW OF PUBLIC FUNDS ($ mil)	(a)		1026	1977	4053
	(b)		1023	[illegible]	3708
	(c)		1023	1859	3647
	(d)		1019	1818	3517

Notes and observations: a/period: 1951/53-1959/61

b/inflow(+), outflow(-)

c/ M, X, B* for 1960-61 base.

d/ 1960

e/ Dec. 31, 1963

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MEASURES TO ENSURE THE EFFECTIVE USE OF AID

JOAN M. NELSON
AND
GUSTAV RANIS

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September, 1966

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Office of Program Coordination

A.I.D. Discussion Paper No. 12

MEASURES TO ENSURE THE EFFECTIVE USE OF AID

Joan M. Nelson
and
Gustav Ranis

U. S. Paper presented to
The Conference on Improving the Effectiveness of Aid for Overseas Development
(sponsored by the Overseas Development Institute and the Ditchley Foundation)
at Ditchley Park, Oxfordshire, England
June 3-6, 1966

A.I.D. Discussion Papers are circulated for the information of the addressees and their staffs. These papers are intended to serve several functions: to improve knowledge of analytical studies, research results and assistance policies among Agency personnel; to encourage the careful recording and analysis of Agency experience and problems by persons currently engaged in them; and, to share such experience and ideas with interested persons outside of the Agency.

September, 1966

Measures to Ensure the Effective Use of Aid

Introduction

What constitutes effective aid from the donor's viewpoint varies in different countries and at different times, depending on the donor's objectives and on the recipient's level of development.

Most donor countries intend their aid to serve several major objectives, including accelerated development in the recipient country, strengthened political ties with that country, and expanded trade and investment opportunities. For many of its country assistance programs, the United States would add to this list of goals heightened internal or external security; progress towards a system of government which is reasonably responsive to public aspirations and stable enough to encourage development; a more equitable distribution of wealth, income and services among classes, regions, and/or ethnic groups and between urban and rural areas.

This paper concentrates on ways to increase foreign aid's effectiveness in supporting development. This reflects both the central concern of the Conference, and the primary focus of the U.S. economic assistance program. Over the past fifteen years, U.S. aid has shifted from a heavy emphasis on security toward much greater stress on development, with the exception of our programs in those few countries where there is an acute security threat. However, U.S. economic aid remains a multipurpose instrument--the actual assessment of its effectiveness in particular countries and the design of measures to increase its effectiveness must therefore still take into account security and political as well as development objectives.

Confining our attention to development goals, the criteria of effective aid must be further modified according to the recipient country's level of development. The yardstick applied to programs in a country with extremely limited administrative and technical cadres and institutions, e.g., some countries in Africa, would be much too modest for programs in countries like Chile or Turkey. Not only are different yardsticks appropriate, but they should be used to measure different kinds of achievement. Effective development aid is aid which is applied to the priority requirements at a particular stage of development, and requirements change as the country progresses.

In the past five years, A.I.D. has pursued two major lines of action to increase aid's development effectiveness: (i) The program planning process has been refined and elaborated, by requiring broader and longer-term analyses of each recipient country's problems and prospects, and more precise identification of aid goals and targets as a framework for determining the volume and composition of aid to a country. Considerable effort has gone into recruiting more economists and other analysts and training staff already in the Agency to conduct better analysis. (ii) A.I.D. has increasingly recognized that economic aid can promote development not simply by supplementing the host country's limited capital and technical resources, but also by exerting influence on host country policies and programs. As we have become more aware of aid's potential leverage role, we have experimented with techniques for exercising such leverage more effectively.

However, it should be noted at the outset that development of theory has outpaced application in practice. Many conceptual problems remain, and administrative problems hinder implementation of ideas which are well worked out in theory. Therefore, the discussion below states A.I.D.'s current thinking regarding aid goals and targets and the use of influence, and also indicates the extent to which these ideas are actually applied and some of the reasons for the gap between theory and practice.

A. Defining Goals and Targets

The U.S. approach to determining the volume and composition of assistance to particular countries has passed through several stages. During the Marshall Plan, aid levels were determined largely by balance of payments considerations. As U.S. assistance shifted to the less developed countries during the mid-1950's, the balance of payments approach gave way in many cases to a project approach, since the developing countries lacked the institutional and managerial capacity to ensure effective use of a large volume of commodity imports. A number of selection and evaluation procedures were developed to ensure that projects were soundly planned and that funds were not wasted through diversion, inflated costs, lags in delivery of material or arrival of technicians, host country failure to provide agreed local cost support, or other problems. While projects which clearly contributed little to economic progress were avoided, a systematic effort to determine optimal overall use of aid resources developed only gradually.

With time, however, it has become increasingly clear that a collection of sound projects does not necessarily add up to accelerated growth, much less bring about the structural changes required to increase savings and foreign exchange earnings and lead ultimately to self-sustaining growth. A.I.D.'s contribution is increased by concentrating both resources and influence on particular strategic problems within each sector of the underdeveloped society. A.I.D. is increasingly trying to focus aid resources and influence in each receiving country on a limited number of such goals selected in the context of a broad analysis of the country's development prospects and problems.

1. Selecting Goals

a. The analytic framework

In all countries where the U.S. conducts large or moderate assistance programs--roughly 45 out of the close to 70 countries to which some U.S. economic aid is extended--assistance goals are selected in the context of a rather comprehensive, continuing analysis of the country's development problems and prospects. Field missions are asked not only to examine the current situation and immediate prospects and requirements, but also to anticipate trends for several years into the future. In eight or nine countries where data permit and the scope of the U.S. program warrants, such projections usually take the form of a macro-economic model, and include estimates of the results of alternative assumptions regarding key variables. The usefulness of such projections does not depend on very accurate data, since the main purpose is not to predict progress but to test which policy variables are most important in determining the rate and pattern of growth.

Ideally, macro-economic analysis along these lines must be supplemented by depth studies of problems and prospects in key sectors, or in fields which cut across sectors, such as export promotion. In estimating possible progress over, say, a five year period, existing government policies, priorities and administrative capacity should not be taken as immutable, but rather regarded as policy variables. On the other hand, the estimate should not assume radical, therefore highly unlikely, changes in policies, priorities or efficiency. The purpose of the analysis is, in fact, to pick out those key changes which are both necessary to realize potential growth and feasible in the light of major constraints, including competing claims upon limited capital and administrative skills, social and cultural attitudes, and political pressures.

Such an analysis is too time-consuming to attempt for all development fields in a country. Therefore analysis normally narrows in scope as it proceeds from more general to more detailed levels, identifying at each stage those sectors or problems which seem to play a key role and therefore warrant closer examination.

Even rather crude analysis along these lines permits aid resources and influence to focus on key changes necessary to accelerate growth and restructure the economy. As analysis is carried further, aid goals can be more sharply defined. (It might be noted that sharper definition does not imply narrower scope.)

b. A.I.D. Experience with Establishing Goals

An aid agency's ability to devise its program fully as a consequence of this kind of analysis is evidently circumscribed by "real world" factors (in addition to the existence of non-developmental objectives of foreign assistance).

First, it is obvious that other considerations enter into selection of aid goals, in addition to the identification of those fields or problems on which progress is most essential in view of the country's level of development and potential areas of comparative advantage. A donor interested in maximizing the development effectiveness of its assistance would select from among a list of priority goals those which (i) were not being addressed by other donors, and (ii) called for types of aid which it could administer effectively, i.e., fields of activity for which it could provide required skills and commodities at competitive or better-than-competitive prices and quality.

Second, the volume and composition of project aid in any given year is largely determined in the short run by activities already under way, except in those rare cases in which a new country program is started or a limited program is greatly expanded.

Third, in many developing countries A.I.D. is prepared to provide a flow of loans for sound capital projects which substantially exceeds the host country's ability to identify, prepare and propose sound projects. Increased assistance for pre-feasibility and feasibility surveys eases the problem only slightly. Therefore in many countries A.I.D. is likely to finance a capital project which looks economically and technically sound and for which funds on suitable terms are not available from other sources, even if the project has little or no relation to the goal structure of the rest of the country assistance program. As a result, capital project assistance is often poorly integrated with other A.I.D. activities.

Fourth, poor data and a still inadequate understanding of the development process hamper analysis at every stage. However, once certain sectors or problems have been selected as particularly important, continued efforts to gather information over the longer term will permit considerably improved analysis and performance.

Fifth, despite vigorous efforts to recruit more general economists and specialists in sector analysis (e.g., education planners, agricultural economists, etc.), the best staffed field missions at present have perhaps two or at most three thoroughly trained general economists and very few missions have any qualified sector analysts. International and domestic U.S. demand for education planners, good agricultural economists and other sector analysts greatly exceeds supply, and A.I.D. has found it very difficult to attract the kind of talent it needs to conduct the analysis sketched above. We are now experimenting with using contract teams for sector analysis; for example, Education and World Affairs is conducting a two-year study of education problems in Nigeria, and the RAND Corporation is considering helping in Turkey and Colombia.

Because of these problems, many of the "goals" outlined by field missions still serve more as labelled receptacles for the set of projects being carried out under the supervision of the individual technical divisions in the mission, rather than a de novo grouping with its own internal logic and strength. The projects may be well- or ill-planned individually and as a group, but superficial "packaging" by itself adds nothing to their effectiveness.

On the other hand, where the approach has been taken seriously and supported by adequate analysis, it has led to significant changes in program design, and to better directed and coordinated activities and influence. For example, one goal in the Pakistan program is that East Pakistan achieve self-sufficiency in rice production by 1970, while increasing rice yields per acre to permit crop diversification. Crop diversification may in turn lead to improved nutrition and the increased production of export crops. This goal of producing more rice and higher acreage yields provides a unifying focus for technical assistance, project and commodity dollar loans, local currency loans and grants, and influence directed to many types of activity, including improved planning, agricultural extension, training, improved supply of fertilizer, pesticides, seeds and other production requisites, irrigation, marketing, credit, coastal embankments, flood control, and rural works. Most of these kinds of activity were already under way when the goal was formulated, but questions of volume, phasing, location, and specific emphasis (for example, what kinds of pest control to emphasize) are now determined by considering their contribution to the goal of increased total production and acre yields of rice.

2. Defining Targets

a. Purpose and Nature of Targets

Fairly precise achievement targets associated with each goal serve three purposes. (i) They facilitate precise planning, by focusing attention on how much and what kinds of progress is feasible and desirable; identifying the total in-puts, in terms of resources skills, and changes in policies and procedures, necessary to achieve this progress; and finally suggesting the share of total resources and the kinds of influence the donor should provide. (ii) Time-phased targets also permit a running evaluation of progress, so that steps can be taken to correct lags. (iii) Finally, targets or benchmarks permit an after-the-fact assessment of performance, which may make it possible to apply experience with one problem in one country to similar problems elsewhere.

One or two hypothetical examples may illustrate the kind of targets we believe to be helpful in planning and evaluation. Assume that increased foreign exchange earnings represent one key goal in a relatively advanced developing country where the growth of exports has failed to keep pace with progress in other fields. In this case it is possible to set a quantitative target associated with the goal--say, a 50% improvement in export performance over a five year period. This target in turn reflects detailed estimates of potential increases in earnings from commodity exports, tourism, remittances, and other sources. Therefore the overall target can be supplemented with targets for increased earnings from those sources which are expected to make the greatest contribution to the total increase in foreign exchange earnings--let us say, an 80% increase in earnings from mineral exports, and a 200% increase in earnings from tourism. The next step is to identify the actions which must be taken if the targets are to be achieved. In the case of an overvalued exchange rate this may require a certain amount of devaluation. Meeting the minerals export target may require capital inputs such as modernized mining equipment and easier access to credit, technical inputs such as application of improved mining techniques, and policy inputs such as revision of the mining code and adjustment of freight and loading charges for certain types of ore. These conclusions will point to the need for new or continued aid activities, and for experts to encourage and assist the host government to take the needed policy measures.

Another goal might be reorientation of the formal education system to better serve manpower and other developmental needs. Although no single over-all target can be associated with this goal, a number of contributing targets can be identified. One such target might be a shift in the distribution of students at secondary and higher levels from generalist to technical and professional fields of study. If a key bottleneck to such a shift were poor mathematics and science preparation in the early secondary school years, another target might be a specified increase during a five-year period in the number of qualified mathematics and science teachers at this level. Still another target might be the introduction over the five-year period of terminal technical and commercial programs at secondary and sub-university level, on a scale adequate to train a specified number of students annually.

As these examples suggest, targets may be quantitative, e.g., percentage increase in mineral exports, or qualitative, e.g., revision of the mining code. Since many of the most important tasks in the developing countries are essentially qualitative, insisting on artificial quantification is not helpful and may be self-defeating. What is important is that the target be precise enough to permit formulation of a course of action to achieve it, and of "mid-term" and "terminal" assessment of whether it has been achieved.

The examples also illustrate our view that meaningful targets must be framed in terms of host country accomplishments, rather than in terms of accomplishments attributable directly and entirely to aid and the donors. This reflects the fact that the essence of the aid process is bringing about desired changes in the host country situation with marginal inputs--marginal resources and marginal influence. Efficient construction of a capital facility or successful completion of a technical training project is not significant in isolation. Only if the facility or the skills are coupled with other actions to bring about priority changes is the assistance really "effective". Recognizing this from the start--stating targets in terms of changes in the host country situation and considering the full range of action needed to achieve the targets--may lead to better project selection and design, increased complementarity among projects, and more systematic use of influence.

b. A.I.D.'s Experience with Establishing Targets

A.I.D.'s experience with establishing targets and using them for planning and evaluation purposes is very limited thus far. Fairly specific targets have long been included in the field missions' annually up-dated descriptions of each technical assistance project. But these targets relate solely to the individual project. While they are useful in assessing whether the project is proceeding as planned, they do not help us assess whether the project is really worthwhile and is having the intended broader effect.

Several years ago an effort was made to require broader quantified targets attached to each major-program goal. However, the requirement was at once so general and so rigid that field missions either ignored the instruction or submitted meaningless targets.

A more flexible and detailed system of five-year goals and targets is being attempted this year on an experimental basis for nine major country assistance programs. If the experiment proves useful as a planning and evaluation device, the requirement that output targets be established will be extended from these nine programs to all or most other A.I.D. country programs.

Partial results available thus far suggest that where a goal is well-defined and aid activities are systematically related to the goal, it is fairly simple to construct rather precise five-year targets and to spell out the most important host country and A.I.D. actions necessary to achieve the target. However, it becomes quite difficult to construct meaningful targets if a goal is less well-thought-through, and aid activities are less well articulated. This suggests a need for tighter analysis, rather than discrediting the concept of targets. In our limited experience, while it is easier to establish quantitative targets for inherently quantitative goals (e.g., increased production, increased supply of trained manpower, etc.) than for institutional development goals (e.g., reorientation of an education system), it is not difficult to construct reasonably precise qualitative targets with respect to institutional development and policy changes. Finally, it may be worth noting that A.I.D. country desk officers in Washington found it much more difficult to spell out targets and associated inputs than did field mission staff who are much more thoroughly familiar both with the host country situation and with details of the aid program.

B. Using Influence Effectively

The discussion of goals and targets applied both to the effective use of aid as additive resources and to effective use of aid to influence host country self-help measures. In the long run, aid's "influence potential" is much more important than its resource contribution. This is true for two reasons. Total aid from all sources has probably contributed roughly 20% of total investment in the developing countries in the past few years. The use made of the remaining 80% is clearly much more important in accelerating growth than is the use of aid alone. Furthermore, policies and procedures--import licensing arrangements, investment codes, marketing board pricing policies, power transportation rate structures, tax provisions, to name only a few--affect economic development at least as powerfully as the presence or absence of adequate infrastructure or technical skills. Successful efforts to influence macro-economic and sectoral policies are likely to have a greater impact on growth than the added capital and skills financed by aid.

1. Types of Influence

It is useful to distinguish between the more general concept of influence and the narrower concept of leverage. Leverage goes beyond influence and persuasion to condition aid, explicitly or implicitly, on specified host country action. Leverage may be negative or positive: aid may be withheld unless certain conditions are satisfied, or additional aid may be made available if host country performance achieves specified standards. Positive leverage is sometimes called "incentive programming".

It is also useful to distinguish between rewarding overall performance by generous aid allocations (thereby presumably encouraging continued good performance, and perhaps inducing other countries to improve their policies), and using current aid negotiations to encourage specific future self-help measures. The first approach is general and "*ex post*"; the second approach is specific and "*ex ante*". The 1961 Report of the President's Task Force on Foreign Assistance relied on persuasion as the primary technique for influencing aid recipients to undertake reforms. It stressed the need to concentrate U.S. assistance in those countries which performed best, thereby both placing our assistance where it would be most effectively used and inducing other countries to improve their performance. However, the pattern of U.S. aid allocations has not always favored good performers clearly enough to exercise a strong demonstration effect. Moreover, specific self-help measures call for decision and action by individual host country officials or agencies. Except for very major macro-economic decisions taken at the highest levels, the connection between specific decisions and the possibility of increased aid available in the future to the country as a whole (not necessarily to the agency which must implement the reform) is too tenuous to have much direct impact. Therefore during the past three years A.I.D. has tried to develop techniques for using current aid negotiations to encourage specific self-help measures.

2. The "influence potential" of different forms of aid

Potentially, all forms of aid can be used to exercise influence. Some forms of aid are better suited to influencing macro-economic policies; others relate more readily to sector or sub-sector policies.

Much *technical assistance* is primarily designed to influence policies and procedures directly through providing technical advice, or indirectly through training and association designed to influence attitudes and increase analytic skills. However, with rare exceptions, technical assistance has been used for *leverage* only to facilitate the operation of the project itself, e.g., refusal to enter into or continue a project unless adequate counterparts are provided or the host country fulfills commitments regarding office space, transportation or other supporting services. The fact that technical assistance projects are rarely used for leverage on host country actions beyond the scope of the projects themselves reflects the assumption that host governments are probably not so eager to get or keep specific technical assistance that they are willing to alter sectoral or sub-sectoral policies or procedures. Most technical assistance projects are relatively small. Often they reflect the donor's view of what needs to be done more than the host government's priorities. Many countries do not count technical assistance as part of the aid level.

There is another constraint on using technical assistance to exert leverage. Effective technical assistance depends much more directly and heavily than other forms of aid on good relations between the foreign technicians and the organization or officials with whom they work. Pressure for reforms, say, in sectoral or sub-sectoral policy might or might not require decision or action from the counterpart organization itself. If it did, and if the pressure were resented, the gains from the immediate improvement in policy might be vitiated by reduced long-run effectiveness of the technical assistance itself.

Project capital assistance can be used to exert both general influence and specific leverage on host country actions. At the simplest level, virtually all donors, bilateral and multilateral, insist that engineering and technical criteria essential to the success of the capital project itself be satisfied. Most donors call for some host country contribution to local costs. These requirements themselves may have a constructive influence, by educating host country officials in what constitutes a well-planned project. However, these conditions also slow the rate of commitments and disbursements. The proper balance between maintaining a given level of project standards and maintaining or expanding the investment program depends on individual country circumstances.

Moreover, A.I.D., the IBRD, and other donors have not infrequently attached to capital project aid conditions going beyond the scope of the individual project. Narrowly conceived, most often conditions relate to the efficient use of the project--e.g., provision for adequate maintenance, or altered rate structure (for a power project). But they may also affect the performance of the entire sector or sub-sector. For example, a sizeable A.I.D. loan for road construction in Afghanistan was conditioned on the Government's establishing, staffing and budgeting for an adequate road maintenance organization. Loans for power stations in Korea were conditioned on changes in rate structure designed to encourage a more economical use of electricity and enhance the investment incentive in the power field.

Perhaps the most important constraint on the use of capital project aid for leverage is the fact that for many developing countries, the volume of assistance available from all sources for well-designed capital projects substantially exceeds the availability of project proposals which meet technical and economic criteria. If donors are competing for good projects, they are deterred from attaching conditions extending beyond the scope of the project. Even if competition is not a factor, political pressure to maintain a flow of aid discourages any delay in obligations or commitments of funds for sound projects.

A.I.D. is currently exploring new techniques to increase influence on over-all and/or sector policies through project lending. One possible approach is to select a sector or problem area (in the context of country analysis described in A above) and indicate to the host government an interest in giving in-depth assistance for the development of that sector. We would either offer to finance or ask the recipient to finance a thorough study of the sector--of its prospects, its development relative to the growth of the entire economy, its requirements, and alternative means of satisfying those requirements. Such a study would include feasibility studies of a number of projects in the sector. Upon completion of the survey, we would offer to finance a specified number of projects at a specified sum and to supply or finance technical assistance for the projects and the operation of institutions within the sector. The offer would be conditional on the host government's undertaking, the policy adjustments and other measures identified in the sector study as necessary for real progress in the sector.

A.I.D. has thus far found program (commodity) assistance the most powerful and flexible form of aid for influencing macro-economic policies. This is true for several reasons:

(i) Commodity aid is almost always larger in volume than individual projects; in a number of countries U.S. commodity assistance substantially exceeds total project aid.

(ii) Most donors are reluctant to provide commodity aid. Yet it may be badly needed at certain stages of development, to permit fuller utilization of existing facilities and to support widely scattered small capital improvements which are difficult to finance on a project basis. Moreover, commodity aid flows quickly; its effects on the economy are prompt. Therefore commodity aid is strongly desired and has high scarcity value.

(iii) Since commodity aid provides equipment, raw materials and spare parts for the economy as a whole, linking commodity aid to macro-economic policies is more likely to appear reasonable and appropriate to the recipient. Therefore program loan negotiations permit access to discussion of a wide range of issues. The volume of program lending is usually based on an analysis of balance of payments requirements. This can easily be broadened into a general review of the economic situation, conducted jointly with the host government, and resulting in decisions both about the volume of aid and about required self-help actions. Recent program loan agreements with Brazil, Chile, Colombia and Korea have provided for joint quarterly reviews of the economic situation and of progress on particular problems.

(iv) Since commodity aid can be increased or decreased at the margin or delayed in timing, it provides a credible incentive. The program loan agreements with Brazil, Chile, and Colombia mentioned above provide that assistance will be released in quarterly tranches, contingent on host country performance as measured by agreed indicators. A recent agreement with Korea provided "incentive funds" for five specific policy reforms: progress on any one of them would be "rewarded" with a small increment in the total program loan, and adequate performance on all five would result in release of the full $10 million provided under the loan agreement.

(v) Some of the most important self-help measures needed in many developing countries require external support at the time the measure is taken as a precondition for its success. For example, U.S. willingness to make a larger part of its total aid available in the form of commodity assistance, helping to meet a possible surge in foreign exchange requirements, played a significant part in Pakistan's decision to liberalize import controls in July 1964. Measures to stimulate private sector activity may also require program loan support.

3. Maximizing influence

While A.I.D.'s experience with systematically maximizing influence is limited, a few broad principles are clear.

The first principle is obvious: the donor must understand the country situation well enough to identify the most important self-help measures needed. While easy to state, this is not easy to do. Therefore the kind of analysis described in A above is essential for the effective use of influence.

The second principle is mutual respect and the open exchange of views between the donor and recipient. The developing countries themselves increasingly accept the idea that donors have a legitimate interest in the development policies and programs of aid recipients. But the relationship is inherently delicate. Even if the host government is receptive, there are always groups within the country ready to cry "interference".

Moreover, unless the host country really understands and accepts the need for measures it is urged to undertake, it may conform to the letter of the agreement while finding ways to defeat its purpose. Or it may simply fail to meet its commitments. For example, in March 1963 an agreement between the U.S. and Brazil (known as the Bell-Dantas agreement) was concluded in which Brazil agreed to take measures to curb inflation and improve its financial situation, while the U.S. agreed to make available, subject to applicable legislation and contingent on Brazilian performance, approximately $400 million for the period March 1963 through May 1964. (This sum included Export-Import Bank and Treasury credits and PL 480 commodities as well as A.I.D. assistance.) It gradually became clear that Finance Minister Dantas lacked sufficient support within the Brazilian Government to implement his program. Dantas was replaced in June 1963. Beyond the initial tranche that had been released immediately, the U.S. limited further assistance during the remainder of the Goulart regime to PL 480, project assistance, and programs in the Northeast.

Even where the host government understands the need for and is committed to implementing agreed reforms, no mechanistic formula is adequate to ensure effectiveness. In Chile, for example, a program loan agreement concluded in 1963 (negotiated in collaboration with the IMF, the IBRD, and other DAC donors), stipulated that Chile take certain stabilization measures and achieve a substantial surplus on current account from which the bulk of public investment would be financed. IMF and A.I.D. officials reviewing Chilean performance later in the year agreed that the conditions were met, yet severe inflation and other major problems persisted. In this case explicit leverage attached to precise targets was effective in a narrow sense but failed of its real goal. This suggests both a need for improved understanding of the problem and the importance of continued close consultation with the host government.

The most outstanding examples of effective influence--e.g., import liberalization in Pakistan, were based on months or years of discussion with host government officials, and the gradual reinforcing of the views of those within the government who favored the reform. The opportunity to maintain such a dialogue is one of the strongest arguments for substantial field missions and sustained field mission input.

Despite the importance of basing influence on informal and continuing discussion with host country officials and influential private individuals, A.I.D. is convinced that it is useful to make an understanding explicit and formal by incorporating it into aid agreements and providing for periodic review.

It is easier to reach agreement on specific self-help measures if there is a mutually agreed framework of general principles. The Charter of Punta del Este to some extent precommits Latin American governments to the principle of reform. The annual reviews conducted by the Panel of Wise Men of the Inter-American Committee for the Alliance for Progress (CIAP) reinforced and provided a multilateral context for U.S. efforts to encourage improved performance in Latin America.

In many cases, the U.S. is of course not the only donor country, nor even the major donor country. The IBRD-IDA, the IMF and other multilateral institutions also play an important role in many countries where the U.S. has assistance programs. Clearly, where more than one major donor is involved, coordination is important not only for most efficient resource use but also to make most constructive use of influence. It follows that we should seek ways to agree with other donors on the scale of requirements, the self-help efforts which may be desirable, and the best ways of influencing the recipient country.

In a number of cases, consortia or consultative groups, sponsored by the OECD, World Bank, or Inter-American Development Bank, have provided a useful forum in which donors could coordinate their views. The United States has encouraged those groups of which it is a member to give greater emphasis to identifying and encouraging needed self-help measures, in some cases as a precondition for assistance. Although multilateral institutions may feel they need to move more gradually and carefully than bilateral donors in insisting on adequate self-help measures by countries which are members of those institutions, there is a clear trend toward greater recognition and acceptance of performance requirements in the multilateral context. Indeed, multilateral institutions, free from actual or suspected political motivations and acting in concert with bilateral donors, may be able to encourage greater self-help efforts than would result from strictly bilateral negotiations. Even where there is no formal consortium or consultative group, the U.S. has found it helpful to conduct negotiations for explicit self-help understandings parallel to, and where possible jointly with, negotiations between the recipient and the IMF (where stabilization is involved), the IBRD, other multilateral lending institutions, and other bilateral donors.

For maximum influence on development policies, incentive programming must not only build on past and facilitate future discussion and persuasion, but must also be coupled with the *ex post* approach of allocating aid among countries roughly in accord with their achievements.

C. Evaluation

The term "evaluation" is used by A.I.D. to apply to at least four different functions:

(i) compliance control, e.g., observance of legislative and administrative requirements.

(ii) management improvement, e.g., evaluation and improvement of Agency-wide procedures and administration; analysis of specific management problems and formulation of solutions for these problems.

(iii) assessment of project implementation, e.g., evaluation of the efficiency with which specific assistance activities are being carried out, in terms of the original work plan and targets.

(iv) assessment of actual contribution to development.

Compliance control, including audit and inspection mechanisms, are used by all responsible financing institutions, and presumably are not of particular interest to this conference.

All large organizations also have arrangements for assessing and improving management and procedures, and for breaking administrative and implementation bottlenecks. In A.I.D., the Office of Management Planning has a wide range of responsibilities of this kind. There is also an Operations Review Committee, chaired by the Deputy Administrator and composed of senior AID/Washington officials, which acts as a high-level "bottleneck breaker". An Operations Evaluation Staff, consisting of five senior evaluation officers (often former mission directors), is attached to the Administrator's Office. Members of this staff look into problems both in Washington and in the field missions, and submit brief written reports and more extensive oral reports. The Operations Evaluation Staff is concerned with problems of management, project implementation, and the overall composition of country programs; it thus performs a variety of evaluation functions.

This conference is primarily interested in techniques of evaluating development effectiveness. A.I.D. finds that while evaluating implementation and evaluating development effectiveness are conceptually distinct, in practice they tend to merge. Field mission technical divisions are responsible for continuously reviewing the progress of particular projects in their fields. Whenever new funding is required--annually, or less frequently in the case of projects being implemented under longer-term contracts--projects presenting special problems or of doubtful value are singled out for higher level review, starting with the mission director and proceeding as necessary through various echelons of Washington review. These periodic reviews usually include both an appraisal of implementation and a reassessment of the project's developmental value.

The annual program review process is the major channel for evaluating whether current assistance efforts as a whole appear adequate in volume and composition to achieve stated objectives and goals.

Since most programs consist largely of continuing activities, the review process inevitably requires a reassessment of current efforts as well as judgments regarding proposed new activities. The review process is conducted successively within the field mission, in the appropriate regional bureau in Washington, and finally (for all major country programs and selected smaller programs) by the Administrator or his Deputy. Until this year, this entire process has compressed into the July-October period. This year the process is being started earlier (in May) to permit a fuller exchange of views and questions.

The evaluation component of the annual reviews is supplemented by ad hoc visits to field missions on the part of Operations Evaluation Staff members or regional bureau teams or senior officers.

While ad hoc field trips and the annual reviews may attempt some evaluation of the contribution of current activities to current growth, these efforts are handicapped by the fact that the developmental impact of many aid activities may take a number of years to become evident. Moreover, indirect effects often are as or more important than direct effects.

Therefore, to learn more about the effectiveness of different assistance forms and techniques of aid administration, it is important to evaluate the impact of past activities on development.

A.I.D. has sponsored a rather comprehensive retrospective assessment of U.S. economic aid to Taiwan over the fifteen-year period 1951-1965. This study was conducted under the direction of Dean Neil H. Jacoby of the University of California at Los Angeles, and evaluates the broad effects of aid on the rate and pattern of economic growth and on social and political evolution, as well as the more specific accomplishments and shortcomings of aid allocation and administration.

A.I.D. has also conducted studies of the impact of specific types of assistance, drawing samples from a number of countries. For example, a study has been made of the effectiveness of participant training in terms of the use made in the developing countries of returned trainees.

Finally, the Program Coordination Staff conducts continuing cross-section analyses of the relationships between the volume of assistance and recipient performance measured in terms of selected macro-economic variables (rate of growth of GNP, marginal savings and investment rates, trade volume and pattern, etc.)

Although we believe that these studies are valuable, it is clear that far too little effort has been devoted to retrospective analysis of the actual contribution to development of specific aid programs and activities. Over time, we hope to build up a much more extensive body of analysis to supplement the continuing assessment of on-going programs.

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A.I.D. DISCUSSION PAPER NO. 13

TOWARD A MORE EFFECTIVE ALLIANCE FOR PROGRESS

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TOWARD A MORE EFFECTIVE ALLIANCE FOR PROGRESS

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TOWARD A MORE EFFECTIVE ALLIANCE FOR PROGRESS

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TOWARD A MORE EFFECTIVE ALLIANCE FOR PROGRESS

INTRODUCTION

The Alliance for Progress symbolized a substantial reorientation of United States policy toward Latin America. Unfortunately, it started at a time of increasing economic difficulties and declining growth rates in most Latin American countries. Since 1962 U.S. assistance under the Alliance has prevented a fall in the inflow of capital, but economic progress has fallen short of the aspirations created. Furthermore, since much of the attention of Latin American governments and the United States has had to be focussed on short term problems, steps taken to remedy the underlying deficiencies in the economic and social structure have not yet reached fruition.

In comparison to other areas of major U.S. interest, Latin America suffers from the late start of economic assistance on a significant scale and from the exceptionally large amount of external debt that was accumulated prior to 1960. Contrary to the popular impression in the United States, there has not been any increase in the net flow of resources to Latin America in the past five years. Increased lending by international agencies and the United States under the Alliance has just offset repayments of prior debt and a falling off in other sources of finance.

More rapid and effective development in Latin America is of great importance to the United States. A continuation of present rates of economic growth combined with a rapidly expanding population will result in rising underemployment and political instability. This phenomenon is particularly dangerous because it tends to be concentrated increasingly in the larger cities.

This paper will examine the means of achieving a more effective development process in Latin America, using as a basis for comparison U.S. experience with major development efforts in other parts of the world. My principal conclusion is that a concentrated effort to accelerate economic growth is very desirable not only for its social and political effects in Latin America but also because it is likely to be less expensive for the United States in the long run.

I. CURRENT TRENDS IN LATIN AMERICA

To make United States participation in the Alliance for Progress more effective, it is necessary to identify the weaknesses in recent Latin American economic performance and the extent to which they can be overcome through U.S. policies. The following survey focusses on features which bear particularly on aid and trade policies.

A. The Capacity to Develop. Although Latin America has a much higher level of income than other underdeveloped regions, it has shown only average ability to raise its per capita income in the past fifteen years. Some basic indicators of development are given in Table 1. For the region as a whole, there has been a fairly steady downward trend in the growth of per capita income, from a rate of 2.3% in 1950-55 to 2.0% in 1955-60, and 1.5% in 1961-65.[1/] The recovery to more than 2.5% in 1964 and 1965 reflects mainly the resumption of growth in Argentina and Brazil after the slump of the previous two years and cannot be taken as convincing evidence of a reversal of the long-term downward trend.

Part of this reduction in per capita income growth is due to the acceleration in population growth, which is now 2.9% for the region and may go even higher. Only the more advanced societies of Argentina, Chile and Uruguay have substantially lower rates; almost all of the other countries approximate population growth rates of 3% or more.

In contrast to most Asian countries, Latin America is relatively well endowed with natural resources in relation to its population. Most Latin American countries are also better equipped with skilled manpower and other human resources, and their rates of capital formation are at least as high as those of Asia and Africa. In short, the supply of resources can be regarded as favorable to development. In Latin

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[1/] The most recent comprehensive analysis of current development performance is given in the O.A.S. Secretariat paper "The Future of Latin America's Development and the Alliance for Progress," (CIES/847, Feb. 1966). The statistics cited here are from AID (PC/SRD). The comparable rates from the O.A.S. paper are 2.4%, 1.8%, and 1.5% respectively.

American countries the main obstacles to more rapid development can be found in the structure of their economies and the ineffectiveness of their development policies.

The dominant factor affecting Latin American development over the past twenty or thirty years has been the failure to adjust exports and imports to the needs of an expanding economy. Since few countries have succeeded in diversifying their exports, their supplies of foreign exchange depend heavily on the variation in world markets for a few primary products -- notably coffee, petroleum, copper, and wheat. Most countries have maintained overvalued exchange rates, largely because the demand for their major primary exports is inelastic. They have thus failed to provide market incentives for the development of new exports of agricultural and manufactured commodities. The combination of slow growth in world demand for their major exports and their own inefficient balance of payments policies has resulted in overall growth of Latin American exports of only 3.8% per year since 1950. Since the net capital inflow has also been stagnant, the supply of imports into Latin America in 1965 is scarcely above the per capita level reached in 1950, while in most other regions of the world imports on a per capita basis have increased substantially.

The shortage of imported capital goods and raw materials has seriously hampered growth in most of the more industrialized countries -- notably Argentina, Brazil, Chile, Colombia, and Uruguay -- which account for about three-fifths of the

TABLE 1

Development Trends in Latin America, 1950-1965.

Country	Population (1965) (millions)	Population Growth (Current)	GNP Per Capita (1965, in 1962 $)	Per Capita Growth in GNP (1950-55)	Per Capita Growth in GNP (1955-60)	Per Capita Growth in GNP (1960-65)	Per Capita Growth in Exports (1950-66)	Total U.S.Aid Per Capita (1953-66)	Avg. Annual Rate of Inflation (1960-65)
Relatively Advanced Countries									
1 Argentina	21.7	1.7%	$541	1.4%	0.9%	1.3%	-0.2%	$ 29	23%
2 Uruguay	2.7	1.3	503	na	-1.4	-0.9	-3.3	31	28
3 Chile	8.5	2.3	474	0.7	1.9	1.6	3.7	139	27
4 Venezuela	8.8	3.4	797	5.1	3.2	1.6	1.9	38	-
5 Mexico	40.9	3.2	427	3.1	3.2	2.8	1.9	25	2
6 Brazil	82.2	3.1	175a/	2.6	2.7	0.2	-2.0	38	63
7 Colombia	18.0	3.0	286	2.6	1.1	1.5	-0.8	64	12
Less Developed Countries									
8 Peru	11.7	3.0	267	3.7	2.0	3.7	6.2	50	9
9 Dom.Republic	3.6	3.5	224b/	na	na	na	-1.1	101	3
10 Central America									
a Panama	1.2	3.0	488	na	na	5.1	5.4	154	1
b Costa Rica	1.5	3.8	360	3.5	1.1	0.2	0.9	107	3
c Nicaragua	1.7	3.0	332	5.5	-0.8	5.2	8.6	77	2
d El Salvador	2.9	3.2	280	1.8	1.2	4.2	3.9	41	0
e Guatemala	4.4	3.1	310	-.9	2.2	3.1	2.7	62	0
f Honduras	2.3	3.1	215	1.0	1.3	1.7	2.7	43	3
11 Ecuador	5.0	3.0	202	2.3	1.4	1.3	2.4	48	4
12 Paraguay	1.9	2.2	200	0.7	0.2	1.6	1.5	52	5
13 Bolivia	4.3	2.3	162	-1.5	-2.4	2.0	0.1	159	5
14 Haiti	4.6	2.1	73b/	na	na	na	-2.7	30	3
LATIN AMERICA	226.8	2.9	323c/	2.3	2.0	1.5	0.9	46	

Sources: Population, GNP, and U.S. Aid from AID (PC/SRD) publications; exports from IMF, (IFS, Trade pages); inflation from ECLA (on basis of IMF data).

Notes: a/ Generally considered too low; estimates range to $300.
b/ Rough estimates for 1964. c/ Haiti and the Dominican Republic excluded.

population of Latin America. In the smaller and less industrialized countries, such as in Central America, where the overall growth of exports has been more satisfactory, cyclical changes in export earnings have caused serious fluctuations in the growth of national income. In fact, only Mexico and Peru have managed to avoid having their development dominated by either import bottlenecks or large fluctuations in exchange earnings.

A second, and closely related, factor hampering Latin American development has been the inability of five of the seven advanced countries to control inflation. As shown in Table 1 these are the same countries that have been unable to make successful adjustments in their economic structures to meet their balance of payments difficulties. The interrelations between the two sets of problems are very complex. Inadequate tax and credit policies and inability to control government expenditure are the major proximate causes of inflation. More basic are socio-political pressures, which have their origins in the economic conflicts among social classes, the urgent need for public services stemming from the rapid growth of cities, and growing unemployment. These factors have prevented even well-motivated governments, such as Chile and Brazil, from achieving fiscal responsibility once an inflationary process has taken hold.

Continuing inflation makes balance of payments policy much more difficult, since it requires periodic devaluations. Conversely, the shortage of imports hampers efforts to control the inflation and break the vicious circle. Growth proceeds in spurts, which are interrupted by the periodic need to reduce inflationary pressures. This "stop-go" sequence causes permanent losses in total income and employment.

These conditions of continuing inflation and periodic shortages of foreign exchange account for the distortions in the economic structures of many Latin American countries.[1/] Most of these countries have tried to offset the slow growth of exports by concentrating on the production of manufactured goods to substitute for imports. In the long run, this policy has resulted in inefficient industrial producers sheltered from foreign competition by very high tariffs or prohibitive restrictions on imports. Once such protected industries have exploited the opportunities of the domestic market, they have been unable to take the next step into export markets because of their high costs and the protective policies of their neighbors.

For Latin America as a whole, this policy of forced industrialization through import substitution has been self-defeating in the long-run. Although protective policies provided an initial incentive to industrial development, failure to modify them as industries have developed has resulted in a rate of growth of industry that is not very rapid in comparison to other developing countries. These policies have also led to distortions in prices and a neglect of agriculture, which now constitute serious obstacles to future development.

[1/] The extreme cases are Argentina and Uruguay, formerly the most advanced countries of the continent, in which there has been almost no growth in per capita income in the past decade. Chile, Brazil and Colombia have been affected to a lesser extent.

Mexico and Peru provide the main exceptions to the preceding generalizations, with Venezuela a special case because of its large oil revenues. Mexico and Peru have maintained a fairly steady growth of GNP at about 6%. Agriculture, mining and manufacturing have been developed in balance with domestic and foreign demand and without reliance on excessive protection. Although both countries suffer from regional and other inequalities of income, they show substantial benefits from maintaining realistic exchange rates, expanding exports and introducing only moderate levels of protection. At the opposite extreme are Argentina, Uruguay and Chile, which achieved a high level of per capita income before the war, but have tended to stagnate since then.

In summary, Latin America has not yet demonstrated the ability to develop in a sustained fashion. The principal weakness has been an inability to achieve an adequate growth of exports and a flexible economic structure which can adjust to changes in foreign and domestic demand. Mexico is the only Latin American country which has clearly met these conditions and where steady non-inflationary growth is the normal expectation. Most of the other countries can achieve high growth rates for a few years when export conditions are favorable, but growth is not sustained because of the vulnerability of their principal exports to fluctuations in world demand.

B. External Capital. Latin America has historically had a large inflow of both public and private capital. It has contributed substantially to development, but it has also produced levels of public and private indebtedness that are much higher than those of most underdeveloped areas. Amortization of public and private debt now requires about $1.5 billion annually and payments of interest and profits are over a billion dollars (see Table 2 and Annex A).[1]

The central feature of the Alliance for Progress is its intention to accelerate development through increasing the rates of both domestic savings and investment and the net inflow of foreign capital. So far neither of these requirements has been achieved. Although there has been some qualitative improvement in the external financing available to Latin America in the first five years of the Alliance, Table 2 shows that the net inflow of long-term capital has remained fairly constant. The net resource transfer has actually declined since 1961 as interest and profit payments have increased. While the aid recipients describe the situation as a failure on the part of the donors, the latter point to the Latin American failure to control inflation, to improve the conditions for private foreign investment, and to institute effective long-term planning. There is some justice on both sides.

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[1] A comprehensive historical and statistical account is given in U.N. External Financing in Latin America, 1965. The financing of capital inflows for 1961-1965 is discussed in Annex A.

TABLE 2

GROSS AND NET CAPITAL FLOWS TO LATIN AMERICA, (1955-1965)* (millions of dollars)

	Average 1955-60	1961	1962	1963	1964	1965
I. Sources						
A. Normal Long-Term Capital						
1. U.S. Government (Gross)		836	676	704	716	785
a. Grants		150	174	234	222	301
b. AID loans		108	187	214	233	280
c. PL 480, Titles I & IV		140	79	85	145	38
d. Eximbank		437	217	123	60	99
e. Social Progress Trust Fund		1	19	48	56	67
2. IBRD (Gross)		101	153	251	219	157
3. IDB (Gross)		5	37	71	122	108
4. Direct Investment (Net)		390	441	332	399	-
5. Other (Including Supplier credits)		920	968	684	964	-
6. Total Long-Term		2,252	2,275	2,042	2,420	
7. Amortization of Long-Term Loans		-810	-922	-855	-1,004	
8. Net Long-Term Capital (6-7)	963	1,442	1,353	1,187	1,416	
B. Net Compensatory Loans	202	271	251	176	-309	
C. Net Short-Term Loans	128	202	151	98	278	
D. Net Financing (A+B+C)	1,293	1,914	1,754	1,461	1,384	
II. Uses						
E. Net Resource Transfer to L.A.	403	858	767	0	-89	
F. Outflow of Profits and Interest	552	832	835	821	1,007	
G. Current Account Deficit (E+F)	955	1,690	1, 602	821	918	569
H. Changes in Reserves	+17	-74	-456	+308	+52	+488
I. Errors & Omissions and Capital Outflow	321	298	608	332	414	

* SOURCE: Annex A. Figures include all 19 Alliance countries except Venezuela, which has had an outflow of capital during this period. Some 1965 figures cannot be calculated until certain component balance-of-payments data are published by the IMF.

The main sources and amounts of official capital inflows since 1961 are given in Table 2. The table shows the changes in the sources of long-term financing over the past five years and the decline in net compensatory financing. The largest shift has been the decline in net lending by the Eximbank. The Inter-American Development Bank and the World Bank have replaced the Export-Import Bank as main sources of project lending to Latin America. AID program loans have reduced the need for compensatory financing of short-term balance of payments deficits by the U.S. Treasury, the IMF, and the Export-Import Bank. These program loans represent a qualitative improvement since their objectives and conditions are intended to cure the underlying problems as well as to provide for stabilization.

In attempting to carry out its reponsibilities under the Alliance for Progress, the United States has been confronted with the dilemma of trying to provide long-term developmental assistance to countries in which the immediate problems of inflation and fiscal reform must be solved in order to make any development effort effective. The many attempts to stabilize the inflationary economies in recent years have often failed to produce either price stability or satisfactory growth rates. Economists now generally agree that stabilization cannot be achieved in Latin America without accompanying growth. Stabilization alone will not lead to development, and excessive emphasis on price stability may actually hamper growth. Nevertheless stabilization criteria predominate in the negotiations of program loans for development as well as in compensatory loans of various sorts. I do not argue that stabilization is not important to development, but I would stress that it should be part of a longer term set of policies. If U.S. assistance is to play its intended developmental role under the Alliance for Progress, a substantial increase is needed in the net resource transfer to Latin America, accompanied by an improvement in the techniques by which aid is administered.

The net effect of the first five years of the Alliance is to leave external assistance to Latin America at relatively low levels. Before 1960, the net flow of official funds to Latin America was less than half the per capita level for other regions.1/ It has now almost reached the average ($4.00 per capita but this is a much smaller proportion of development expenditures than in other areas. The net inflow of long-term foreign capital finances only slightly over 10% of total investment compared to the 20% to 30% which is common in Asia and Africa among countries that are following reasonably effective development policies.2/ Since more than half of foreign long-term lending is offset by amortization of past loans, the net resource contribution of foreign capital to Latin American development has been relatively small.

1/ O.E.C.D., The Flow of Financial Resources to Less Developed Countries, 1956-1963, and Development Assistance Efforts and Policies, 1965.

2/ As shown in H. Chenery and A. Strout, "Foreign Assistance and Economic Development", American Economic Review, September, 1966.

C. Population Growth, Urbanization and Employment

Latin America has the most rapidly expanding population of any part of the world. Not only is its population growing at nearly 3% per year, but two-thirds of this increase is taking place in cities. Many of the most difficult problems that beset Latin American development -- growing unemployment shortage of housing and urban facilities, and inability to control inflation -- are related to the fact that the growth of urban population is outstripping both the economic and political capabilities of the Latin American governments. These factors are of central importance in reassessing the goals of the Alliance for Progress and the possibilities for more effective development.

The decline in population growth which has accompanied rising standards of living in the more developed countries -- and which is usually identified with urbanization and greater education -- has in Latin America taken place only in Argentina, Uruguay, and Chile. Two-thirds of the population of these three countries now live in cities and towns, and the rate of urban growth has slackened off considerably. The other more industrialized countries -- Venezuela, Mexico, Colombia, and Brazil -- are still in the phase of rapid migration to the cities, where population is growing at 5-6% per year. For Latin America as a whole, the urban population as a proportion of the total is expected to increase from 40% in 1950 to 49% in 1965 and 52% in 1975. This represents an enormous change in both the economic and social structure in a short period of time.

The growth of the labor force in the cities has far exceeded the demand for labor in manufacturing activities. This has resulted in an excessive shift of employment to the more accessible urban service sectors of the economy and a decline in output per worker. In contrast, the growth of output in agriculture, industry and public utilities has come in fairly equal parts from increased employment and increased productivity. Table 3 shows annual productivity increases of 1.8% in agriculture and 2.5% in industry, mining and utilities between 1950 and 1965. In a fully employed economy comparable rises would also take place in the service sectors. Instead, since 1950 there has been a fall in the average productivity in the service sectors, which have had to absorb an excessive share of the surplus labor supply. Since there are almost no reliable unemployment estimates in Latin America, this decline in productivity provides an indicator of rising under-employment. In services alone, falling productivity suggests a level of under-employment equivalent to 10% of the labor force. In effect, the combination of accelerated population growth, higher wages in many types of urban employment, and the attractions of city life has resulted in transferring the problem of underemployment from the countryside to the cities to a large extent.

To reverse this trend of increasing under-employment and under-utilization of human resources will require growth rates in GNP of 5.5% to 8% in individual countries. For the region as a whole, a growth of GNP of over 6% per year will be needed to prevent a further increase in under-employment. Even with this substantial acceleration in overall growth, the increase in productivity shown for the service sectors between 1950-1975 would be only 1% per year. This low figure indicates that there would still be considerable slack in the economy of Latin America.

TABLE 3

Growth in Active Population, Employment and Productivity, 1950-1975.[1]

SECTOR	Active Populat-ion 1950 (millions)	Growth 1925-50	Increase in Employment						Productivity Growth[2]			
			1950-1960	%	1960-1965	%	1965-1975	%	1950-1960	1960-1965	1965 - 1975 (A)	(B)
A. Agriculture (Share)	28.2 (53%)	1.4%	4.0 (27%)	1.3%	2.4 (25%)	1.5%	8.0 (31%)	1.7%	2.1	1.0	2.4	2.2
B. Industry, Mining, Utilities (Share)	12.5 (23%)	2.7	4.9 (32%)	3.4	2.3 (29%)	2.6	8.8 (35%)	3.9	2.6	2.5	3.0	2.5
C. Services (Share)	12.4 (23%)	2.8	6.2 (41%)	4.1	4.9 (51%)	5.0	8.6 (34%)	3.7	0.1	-1.0	2.0	0.3
TOTAL	53.1	2.0	15.1	2.5	9.5	2.7	25.4	2.9	2.1	1.4	3.0	2.1

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[1] Source: United Nations, "Structural Changes in Employment Within the Context of Latin America's Economic Development", Economic Bulletin for Latin America, October 1965.

[2] The "A" projections to 1975 assume 6% growth in GNP and are based on the E.C.L.A. analysis. The "B" projections assume 5% growth in GNP and continued absorption of surplus labor in services. Total productivity increases are greater than the weighted average of the sectoral increases because workers are assumed to be shifting from low-productivity sectors into industry.

Several alternative assumptions and policies have been considered to test these conclusions. In the long run, policies of population control are obviously desirable, but they can have no impact on the labor force in 1975. Policies of promoting more labor-intensive techniques in manufacturing may be desirable, but their possible effect is also limited. The only major alternative to faster economic growth is to slow down the movement from countryside to city, but this policy would just divide the under-employment more evenly and its political feasibility is doubtful.

D. Conclusions. Present trends in Latin American development have been shown to be unsatisfactory from both an economic and a social point of view. The annual growth in GNP of about 4.7% which has been achieved over the past fifteen years is not high enough to provide productive employment for the rapidly growing labor force. The Alliance for Progress has served to prevent a further fall in this growth rate, but the 5.5% growth rate achieved for the past two years represents primarily a recovery from previous declines in Argentina and Brazil. It is not at all clear that a trend toward more satisfactory growth rates has been established. Unemployment and under-employment are rising in most countries and are growing most rapidly in the larger cities where the political results are likely to become increasingly serious. These trends give great urgency to the acceleration of development in Latin America and better distribution of its benefits.

Foreign assistance has made only a modest contribution to Latin American development in the first five years of the Alliance, although some of the institutional changes that aid has helped to initiate should soon start to pay off. Of course, if foreign assistance had not been provided on the gross scale shown in Table 2, the debt burden which existed at the beginning of the Alliance period in most Latin American countries would have led to national bankruptcies accompanied by severe reductions in production and amortization. The primary cause of the limited contribution of external assistance to date has been the complex problem Governments in Latin America have faced in coping simultaneously with structural balance of payments difficulties, chronic inflationary tendencies, growing debt service, and long-term development requirements.

Given the political significance to the United States of economic and political development in Latin America, it is important for us to make a new attack on this problem and to acquire a better understanding of the long-term development possibilities of Latin America. We can then use our resources and influence more effectively to achieve them. These possibilities are discussed in the next section.

II. POSSIBILITIES FOR MORE EFFECTIVE DEVELOPMENT

In the past five years U.S. aid to Latin America has tried to overcome the immediate obstacles to development and to secure economic stabilization in the major countries.

The weakness of development plans in Latin America has prevented us from making a broader assessment of development priorities and from focussing our efforts and those of the recipient countries on achieving them. If the preceding assessment of recent trends is largely correct, we should seriously consider the possible gains from a more comprehensive and longer-term approach.

The present study will explore this possibility. I start from the assumption that more effective development of Latin America over the next decade is both feasible and vitally important to U.S. interests. I shall then examine the internal policies required for achieving this end and the ways in which the offer of external resources can induce or lend support to these efforts. Finally, the potential benefits will be weighed against the political difficulties and economic costs of a more ambitious program.

Because of the rapid growth of population, more effective development requires fuller use of human resources and better distribution of the benefits of growth as well as a rise in total income. Most Latin American countries are lacking in appropriate statistics for the measurement of unemployment, income distribution and elements other than the rise in total income. Therefore the best available indicator of the effectiveness of development is probably the increase in labor productivity in each major sector, a measure which reflects the degree of under-employment, and the change in income distribution as well as the rise in output. The available studies of output and employment suggest that a minimum of 2%

growth in labor productivity in each major sector is normally required to secure relatively full employment of human resources. The overall per capita growth rate corresponding to this objective will vary from country to country. In Latin America, it ranges typically from 3% to 5% because of the unequal growth of productivity in each sector and the initial amount of under-employment.

A. Programs for Selected Countries.

Four case studies were designed to test the approach outlined above in several important and representative countries. These include Chile, Brazil, Colombia and Central America. In each case, an experienced AID economist was asked to develop a set of goals for the next decade that seemed most appropriate for his country and to make ten-year projections to show the benefits and costs of more ambitious and effective development policies.

The goals selected for the next decade have three general characteristics which are given different weight in each country:

(1) maximizing income and human welfare within the period, primarily through more rapid growth, fuller employment of labor and better income distribution;

(2) making the economic system more viable through changes in the structure of production, its orientation toward external trade, etc.;

(3) limiting the need for external financing in accordance with principles of self-help.

Within limits, these are competing goals and there are possible tradeoffs among them. Maximizing income and welfare in 1975 conflicts to some extent with the requirements of a viable economy thereafter; both are dependent on the amount of external financing assumed to be available and on the terms of such assistance.

Each country study strikes a somewhat different balance among these objectives. The projections for Brazil and Colombia showed that growth rates of less than 6% in national product would probably lead to rising unemployment. The higher growth rates of 7-8% needed to achieve fuller employment and minimum increases in labor productivity in all sectors were considered to be attainable by 1970 with reasonable levels of self-help and external assistance. Consequently, fuller employment and better income distribution became the dominant goals for these countries.

For Chile and Central America the analysts give greater weight to the achievement of a viable economic structure in the coming decade than to maximizing the level of income and employment. In Chile a long period of slow growth accompanied by higher rates of inflation has produced a set of attitudes among businessmen and other groups which makes the achievement of rapid growth very difficult. Now that export prospects are more favorable in Chile, increased aid to support more rapid growth is only considered desirable to the extent that these attitudes can be changed and increased private savings and investment can be generated.

In Central America maintenance of the recent growth rates of slightly over 6% is considered a realistic objective and institutional changes are given first priority. The most urgent need is to complete the economic integration of the five countries in order to develop a more diversified, efficient and flexible economic structure.

In arriving at these conclusions each country study considered the effects of alternative objectives and policies and the corresponding rates of growth required in different sectors of the economy. The principal alternatives considered are shown in Table 4 by the target growth rates of total and per capita national product for 1970-1975. The analyses of Brazil and Colombia make a strong case for the internal and external efforts needed to achieve the higher alternatives giving a growth of per capita income on the order of 4 to 5%. In the studies of Chile and Central America, the priority given to structural and institutional change led to the acceptance of the lower targets with per capita growth of 2.5 - 3.0%. In these latter cases it was not possible to make analyses of the probable effects of higher growth rates on employment and income distribution; the conclusions were based mainly on the low probability that higher growth rates could be achieved.

Although the obstacles to more rapid and effective development vary from country to country, several are common to a number of Latin American countries and are emphasized

TABLE 4

COUNTRY GROWTH TARGETS FOR 1970-1975[a]

Country	Population Growth [b]	Lower Alternative Total GNP	Lower Alternative Per Capita GNP	Higher Alternative Total GNP	Higher Alternative Per Capita GNP
Brazil	3.1%	6.0%	2.8%	8.0%	4.8%
Colombia	3.0	5.6	2.5	7.1	4.0
Chile [c]	2.5	5.3	2.7	6.3	3.7
Central America[d]	3.1	6.0	2.8	7.0	3.8

[a] Source: AID analyses. Separate projections of the growth by sector, the main components of GNP, the balance of payments, and the labor force were made in choosing these alternatives.

[b] Population and growth rates assumed by country analysts.

[c] A higher growth rate for Chile of 7.3% was rejected as unlikely. 6.3% is considered possible after 1970, although the principal projection is based on 5.3%. A "lowest" alternative of 3.8% GNP growth, based on historical trends is rejected as unacceptable.

[d] A range of 6-7% is given for Central America although only a single projection is made in any detail.

in the country studies. For the region as a whole, the need to develop outward-looking economies, which are characterized by realistic exchange rates, freer trade and more diversified exports, is the most important single requirement. Fulfillment of these conditions would constitute an important step toward economic integration in Latin America. Brazil and Colombia need to diversify exports to reduce their dependence on the world coffee market. Chile will face a similar problem by 1970, when copper expansion will no longer supply the bulk of its needs for increased imports. In Central America, economic integration is already starting to achieve these results.

The development of the agricultural sector appears as a major obstacle to more rapid growth in Chile, Colombia and Brazil. For many countries achieving a more dynamic agriculture will require a reversal of past policies which have favored industry at the expense of agriculture. In the analysis of alternatives for these countries it is shown that agricultural growth of 5 to 5.5% will be necessary to supply the agricultural commodities and to provide the income for the rural sector that is consistent with the projected expansion of industry and trade and more integrated national markets. Agriculture is also relied on to contribute to more diversified exports, particularly in the longer-term context of Latin American integration.

Although a substantial increase in both public and private saving will be required to finance the investment needed for more rapid growth, this obstacle may turn out to be less formidable than the first two once a more effective growth process is established. The experience of other developing countries suggests that the required national savings rates of 25-30% of the increase in national income can be achieved through feasible increases in tax revenues and from the normal responses of businessmen to higher profits and expanding markets. Few Latin American countries have achieved these savings rates in the past, however, and they should be a focus for the strategy of external assistance that is suggested in the next section. Even with marginal savings rates of 30%, the projected growth of consumption would be much more rapid for these three major countries than it has been in the past.

Perhaps the most unpredictable element in a strategy for more rapid development is the response of the private sector to increased national income and larger markets. This is regarded as the major uncertainty in the projections for Chile and Central America.

The foreign capital inflow required to support these development targets will depend largely on each country's success in carrying out its development policies. The inflow of foreign resources contributes to both the financing of investment and the supply of imports. Aid requirements therefore depend on self-help measures in the fields of balance of payments policy, investment and taxation. In the next section the foreign capital requirements implied by the country projections will be discussed along with those for the rest of Latin America.

B. Alternative Projections for Latin America.

To extend these results to all of Latin America, we have made a set of alternative projections for sixteen of the members of the Alliance. These are discussed in Annex B. While these analyses are less detailed, they are adequate to indicate the possible benefits and costs of more rapid growth.

Although a wide range of possible growth rates has been explored, principal interest centers on the difference between a continuation of present trends and an acceleration of growth to meet the minimum productivity goals outlined above. For this purpose, a higher target growth rate for 1970-76 has been assumed for each country, taking into account its past performance as well as the upper limit of 7-8% which is probably technically feasible in almost every country. The targets selected range from about 5.5% in Argentina and Paraguay to 7% or more in Venezuela, Mexico, Brazil, and Colombia, giving a regional average by 1976 of about 6.5% (or about 3.5% per capita). Allowing for the fact that not every country can be expected to achieve these targets, a realistic target would be about 6% growth in total GNP for the region. So far as can be ascertained from the available data on population and employment, this is about the minimum required to provide productive employment for a substantial part of the increased labor force over the period.

Although we have made annual projections for 16 of the 19 Alliance countries through 1976,[1] the most important features of the results can be shown by comparing several alternative growth patterns for the whole region in 1972. Key elements of this comparison are given in Table 5 and Figures 1 and 2. The "historical" growth rates represent a continuation of the country trends of the past fifteen years and average slightly over 5% for the region. Projections labelled "past development performance" are calculated on the basis of the investment productivity, savings rates, export growth and import requirements experienced in each country in recent years. The net capital inflow required in 1972 on these assumptions for the 16 countries is about $825 million (Projection I-A), representing an increase over 1966 of nearly two-thirds. This is somewhat more than the average net inflow for development in 1961-64 of $400 million. This requirement for 1972 might be reduced to about $600 million through better performance, as shown by projection I-B.

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[1] All except Uruguay, the Dominican Republic, and Haiti.

In order to compare these projections to the crude estimates given in the Charter of Punta del Este in 1961, it is necessary to add back payments of interest and profits deducted in arriving at net capital inflow. For the decade 1962-1971, the projections adjusted in this way would show cumulative gross investment of $145 billion and net capital inflow of about $15 billion in comparison to the original estimate of $100 billion in total investment of which $20 billion was to be financed by foreign capital inflow. The projected growth for the decade after these adjustments is about 5% or 2.1% per capita in comparison to the anticipated 2.5% per capita.

TABLE 5

ALTERNATIVE PROJECTIONS OF GROWTH AND CAPITAL INFLOW, 1972[1]

(millions of 1962 dollars)

	Gross National Product (1)	Total Investment (2)	Net Foreign Capital Inflow (3)	Exports (4)	Imports (5)	Share of Foreign Capital in total investment 1972 (6)	1967-72 (7)	1967-76 (8)
1966 Estimates	78,268	14,294	498	11,513	10,781	-	--	-
I. Historical Growth Rates (1972)								
A. Past Development Performance	105,417 (5.1%)	20,209	825	14,355 (3.7%)	14,721	.041	.041	.043
B. Increased Exports & Import Substitution	105,417 (5.1%)	20,235	608	15,280 (4.8%)	15,256	.030	.035	.032
II. Accelerated Growth Rates (1972)[2]								
A. Past Development Performance	109,788 (5.8%)	27,660	5,568	14,355 (3.7%)	20,297	.201	.147	.178
B. Increased Savings, Exports & Import Substitution	109,788 (5.8%)	27,704	3,477	15,248 (4.8%)	19,100	.126	.094	.105
C. Lower Capital Requirements	112,884 (6.3%)	25,194	2,773	14,355 (3.7%)	17,215	.110	.097	.106
D. Maximum Performance [3]	112,884 (6.3%)	25,329	975	15,360 (4.9%)	16,133	.039	.045	.035

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[1] Regional totals are based on individual projections for 16 countries (excluding Uruguay, Haiti and Dominican Republic.) Foreign capital inflow figure is the sum of inflows to deficit countries and does not include possible repayment of prior debts by surplus countries. The net inflow is the difference between imports and exports of goods and services, where services do not include profits or interest payments on capital investment or debt, these payments being treated as capital flows, It corresponds to line E in Table 2.

[2] Growth rates shown are the average for the period 1966-1972. The target rates are somewhat higher.

[3] Maximum performance includes the improvements in savings rates, exports and import substitution, and more efficient use of capital of both assumptions B and C,

Table 5 also gives estimates of the capital inflow needed to achieve the accelerated target growth rates from 1970 onward under four sets of assumptions pertaining to the countries' development performance. Projection II-A shows that if there were no change from past performance with respect to savings rates, capital coefficients, export growth or import requirements, more than three-fifths of the increase in investment needed to support the higher growth of income would have to be financed from foreign capital, which would rise to $5.6 billion by 1972.

The other three projections show the effects of improved development policies on the level of income achieved and the amount of investment and external capital required. Increased savings rates, greater exports, import substitution, and more efficient use of capital all contribute to a lower requirement of capital inflow. The combination of all these improvements (II-D), labelled "maximum performance", incorporates the optimistic performance projections for Brazil, Chile, and Colombia and makes equally ambitious assumptions for the rest of Latin America.

Under the assumptions of maximum performance in each country, curve II-D in Figure 1 shows that the net capital inflow required would rise to a peak of about $1.1 billion in 1970 and then decline to less than $640 million by 1976. Up until 1972, the attainment of accelerated growth rates with maximum development performance will require more external capital than would be required to maintain historical growth rates with present development performance (I-A). After 1962, less foreign capital would be needed to sustain the higher growth rate of 6.5% than the historical rate of 5%. The increased flow of external capital between now and 1972 would enable a number of countries to achieve an economic structure in which continued growth would be the normal expectation. The remaining needs for external capital would be supplied on non-concessional terms as in Mexico and Venezuela today. The "aid component" of the capital inflow would probably be substantially smaller with more rapid growth than it is today.

The composite projections of more rapid growth in each oountry of Latin America are designed to show the maximum increase in external capital that would be needed if a policy of accelerating Latin American development were adopted. Results for each major country under Assumption II-D are given in Figure 2. Under the assistance policies proposed in section III, however, only countries which met certain stringent standards of performance would be offered increased assistance. Since there might be some countries that would not qualify for additional aid under these conditions, the actual rise in capital inflows probably would be less than the projected amount.

To arrive at the required gross U.S. public capital inflow to Latin America, it is necessary to include the net effect of private capital inflows and outflows, to subtract the net contribution of international lending agencies, and to add amortization and interest payments on public debt. As shown in Table 6, the net effect of private capital, i.e., inflow of

TABLE 6

U.S. OFFICIAL LENDING TO LATIN AMERICA IMPLIED BY ACCELERATED GROWTH, MAXIMUM PERFORMANCE (II-D) PROJECTION

	1966	1967	1968	1969	1970	1971	1972
Net Resource Gap, Deficit Countries	498	755	875	886	1,064	1,058	975
IBRD	-100	-103	-113	-127	-164	-189	-216
Gross Disbursements 1/	-230	-265	-300	-345	-400	-460	-530
Repayments-Existing 2/	64	71	80	89	86	85	89
Repayments-New 3/	-	-	-	-	-	12	25
Interest-Existing 2/	59	69	70	71	70	68	65
Interest-New 3/	7	22	37	58	80	106	135
Net Private	175	170	170	180	180	185	190
Net Direct Investment 4/	-450	-500	-550	-600	-660	-725	-800
Investment Income Outflow 5/	625	670	720	780	840	910	990
Other Private (supplier credits, etc.) 6/	0	0	0	0	0	0	0
IDB Ordinary Capital 7/	-53	-48	-43	-21	-11	-10	-4
Gross Disbursements	-90	-100	-110	-100	-105	-115	-120
Repayments	20	32	42	51	62	70	78
Interest	17	20	25	28	32	35	38
U.S. Official-Net	520	774	889	918	1,069	1,044	945
Debt Service to U.S.Gov't 8/	300	300	300	300	300	300	300
U.S. Gross	820	1,074	1,189	1,218	1,369	1,344	1,245

FOOTNOTES

1/ Disbursements estimated to rise about 15% per year in line with IBRD projection for worldwide disbursements through FY 1971.

2/ IBRD statistics Division

3/ Assumes 5 years grace, 20 years repayments, 6%.

4/ Assumes doubling from 1962-1964 average as result of investment guaranty program and investment incentives arising from greater integration.

5/ Projected from 1965 actual of $600 million on assumption of 10% return on new investment.

6/ Assumes no net contribution, on assumption that suppliers' credits will increase net about 5% per year from present level of about $2.5 billion and interest will roughly offset this increase.

7/ Based on IDB projections of repayments on existing debt and LA/DP projections of new commitments. Assumes 4 years grace, 12 years repayment, 6%.

8/ Continuation present level, under assumption Eximbank will maintain existing level of portfolio and AID provide the major part of new capita flow on present terms.

direct investment, outflow of profits on old investment; and the extension and servicing of suppliers' credit, is expected to rise from an outflow of $175 million in 1966 to an outflow of $190 million in 1972. The net inflow of capital from the World Bank and the Inter-American Development Bank is expected to rise from about $150 million in 1966 to about $220 million in 1972. Amortization and interest payments on debt to the U.S. are expected to remain constant at $300 million, although later figures are subject to variation with the terms of new lending. Thus gross U.S. aid would be required to increase from approximately $800 million in 1966 to approximately $1,200 million in 1972. While the annual appropriation for the AID component is determined by the gross rather than the net flow, the resource cost to the U.S. and other donors is measured by the net capital transferred. It is this latter concept which should be the basis for major policy decisions.

C. Internal Development Policies.

Since it is not feasible to discuss all the policy implications of these projections, I shall focus on the role of external aid in carrying out a successful development strategy. It will be much easier to achieve the structural changes needed in Latin America with a rapidly expanding national income, increasing government revenue, and steadily rising employment than with slowly growing economies where the redirection of resources would be much more difficult. The principal lesson to be learned from the success of aid programs in other parts of the world is that accelerated growth makes possible a restructuring of the economy and a rapid approach to viability. When this has been achieved, the initial investment of substantial amounts of external capital has turned out to be very productive.

In Latin America, the structural change most urgently needed is to move toward more outward looking and increasingly integrated economies. There is substantial agreement among economic observers from Latin America and elsewhere that competitive economies with freer international trade would provide the most favorable basis for continued growth without excessive reliance on external capital. The central problem is how to move in this direction from the present set of inefficient, protected economic units. The typical reaction in such countries to any kind of economic difficulty is to reduce imports and to increase protection and thereby make the long-term problem worse.

An increased flow of external resources can make two major contributions to the success of the domestic policies that are required. First, it can support liberalization of imports of raw materials and capital goods together with realistic exchange rates for a period long enough to raise output and also to provide an incentive for increased production of new agricultural and manufactured exports. This strategy has been one of the key features of the remarkable success of U.S. aid policy in Taiwan, Pakistan and Korea in recent years. These were countries that suffered even more acutely than Latin America from an initial imbalance in their economic structures. Policies of this sort have been conceived in Colombia and Chile, but they have not yet been carried through.

The second major contribution of external assistance would be to support more rapid growth for a period long enough to increase substantially the domestic resources available for development purposes, both for physical investment and for the improvement of human resources. Here the keys to success are (i) the country's ability to increase the rate of investment and production once the balance of payments limitation is eased; and (ii) the country's ability to siphon off a substantial share of the increase in GNP for developmental purposes through private savings and taxation. The most notable examples of countries which have been successful in this regard are Israel, Greece and Taiwan, all of whom have depended initially on external aid for at least 75% of their total investment. They achieved viability within a decade through a strategy of rapid growth which was dependent on capturing 25% of the increment in GNP for further development.

The effects of these differences on development possibilities have been brought out in Table 5. The projections of "maximum performance" assume higher tax and savings rates and a redirection of resources to increase exports and reduce import requirements. This improved performance is much more likely to be attainable with increased growth rates and a temporary increase in external assistance than with a continuation of past growth rates of 2% per capita or less.

Although the increase in total GNP of $7 billion in 1972 resulting from the enforcement of faster rather than slow growth rates does not appear dramatic, it is a margin that will widen continually thereafter while AID requirements continue to decline. What is being proposed, therefore, is a major effort to solve the structural problems of those Latin American countries that are willing to join seriously in this attempt. Even by 1972, the effects on unemployment and the strength of progressive governments should be very substantial.

III. ASSISTANCE POLICIES FOR ACCELERATED DEVELOPMENT

To translate the preceding analysis into specific policies for U.S. assistance, several questions must be answered concerning:

(i) what kinds of development programs to support?

(ii) what share of increased development expenditure should be financed from abroad?

(iii) what kinds of controls are needed to secure satisfactory performance?

In earlier cases of substantial support in Asia and Europe, accelerated development was accepted as a political necessity and these questions were only asked after the process was under way. It should now be possible to design the aid relationship in Latin America more systematically, but neither analogy to other countries nor quantitative economic analysis can give very precise answers. A development strategy must be worked out for each country individually. It will ultimately be necessary to decide the extent to which the prospective rewards in each case are worth accepting a certain amount of risk.

Perhaps the element of risk which we are willing to accept should not be as great as it was in Greece and Taiwan, but it should be more than we have been willing to accept so far in Latin America.

A. How Much Development?

I have argued above that there is a critical difference in both economic and social terms between slack economies with rising under-employment in Latin America and countries which are achieving relatively full employment with rising productivity. This difference is important to the United States because of its potential political consequences. While no uniform relationship has been established between economic and political development, a strong case can be made that democratic political development is much less likely to succeed without both rising income and a better distribution of its benefits among different groups in the population. If we take the more restricted objective of political stability rather than political and social development, there may be some counter-arguments against too rapid economic growth in primitive societies, but these hardly apply to the more sophisticated countries that comprise the bulk of Latin America.

Beyond the minimum growth needed to secure some measure of social stability, the question of how much development in the next decade should depend on the possibilities for achieving changes leading to self-sustained growth, and on the cost of securing them to the U.S. and other aid donors. Development assistance should be systematically related to the effectiveness of local efforts. It would, therefore, be very desirable to focus the Alliance for Progress on the guarantee of support for more effective development policies and programs.

B. Sharing the Cost of Development.

The principle of matching local expenditure is used by both the Federal Government and private foundations to maximize the element of self-help and to adjust the amount of assistance to the rate of execution of programs. The matching approach has the additional advantage that the proportions of external to local effort can be adjusted to the individual situation in each country and can be applied with considerable effectiveness to secure increases in expenditure.

The matching principle has applications in aid administration in both project assistance and program assistance. In the former, it is of less value because it simply requires a reallocation of existing government expenditures to supply the local share of a project's cost. While this indicates government support for that particular project, it is entirely compatible with inadequate total development efforts and falling rates of savings, as has been the case in several Latin American countries. When applied to a total program of assistance, however, matching can be made much more effective. Program assistance can be related to an overall development program and made contingent on execution of policies designed to raise investment and to channel it into priority areas.

The projections summarized in Table 5 suggest the order of magnitude of the share of increased investment that might have to be financed from abroad in the next five years. For example, to increase the growth rate over the next six years from 5.1% to 5.8% for the region as a whole without an improvement in self-help, would appear to require an increase in the 1972 net capital inflow from $825 million (I-A) to $5.6 billion (II-A). This would imply that 20% of the total investment and over 60% of the increase in investment from now until 1972 would be financed from external capital. For most countries, this would suggest to the U.S. too little self-help to be worth supporting. Under optimistic assumptions (B and D) as to country performance, a growth rate of 5.8% or more could be achieved with no more than 33% of the increase financed from abroad. Projection II-B would only raise the average share of external capital to a peak of 13% of total investment in 1972, but it would decline thereafter. Less demanding standards than our "maximum performance" might therefore be appropriate, within the original 20:80 formula of the Charter of Punta del Este. An offer to support development programs that would result in external financing of 20% to 30% of the increase in investment according to country circumstances would be consistent both with the importance of the problem and with U.S. experience elsewhere.

C. Implementation.

It will require broadened use of the system by which U.S. and international aid are administered to achieve the incentive effects which are at the heart of the present proposal for making the Alliance more effective. Three aspects of an effective system of aid administration should be focused on:

(i) Relating the amount of total assistance to the size and effectiveness of the country's development program in such a way as to induce maximum local efforts.

(ii) Supplying resources in the form best designed to support development priorities.

(iii) Using controls designed to enforce development priorities and efficient execution rather than to secure secondary benefits to the donor.

Although attempts have been made in negotiating aid for Chile, Brazil and Colombia to relate the amount of U.S. assistance to the country's performance, the principal criteria used have been measures of the country's success in overcoming short-run impediments to development, stabilization and reform. In order to achieve growth as well as stabilization, it is desirable to establish criteria for aid that are more specifically related to long-run development and which provide incentives to better economic performance.

The Matching Principle. The principle of sharing the cost of accelerated development which has been outlined above provides a basis for development assistance in all countries where a serious development effort is undertaken. Since the appropriate development strategy and need for external support vary from country to country, the matching principle can only be applied effectively in the context of a country's development program. To translate the principle into a specific set of self-help measures, the development program should be made the focus of aid negotiations, as it has been in countries such as India, Pakistan, Korea, Turkey and Nigeria.

While the provision of aid based on the review of country programs was stressed in the Charter of Punta del Este, this procedure has never been attempted very seriously in Latin America because neither the recipient countries nor the U.S. and other donor agencies have had much confidence in the existing development plans. However, development planning has been improving and has now reached a stage in the principal countries where it could be relied on to a much greater extent as a basis for development policies. The use of development programs as a basis for external assistance would greatly improve the seriousness and effectiveness of the plans themselves. This has been the experience in almost every country where this linkage has been established.

The matching principle can take a number of different forms in the context of an agreed development program. The aid negotiations will focus on whatever aspects of development policy are considered most important, such as economic integration, more realistic exchange rates, taxation or reallocation of investment funds. These negotiations will culminate in agreement on a development program whose requirement for external capital will represent the share of increased expenditures to be financed from abroad. This is a rough outline of the type of negotiation carried on by the World Bank on behalf of the aid donors for India and Pakistan and which could well be adapted to Latin American conditions.[1]

The form of an offer to supply increased assistance should be designed to provide a maximum incentive to better performance and should also provide an adequate guarantee that the funds will be properly used. A procedure which would maximize the incentive effect would be to offer to finance an agreed share of the increase in investment (or development expenditure) that is represented by the development program. A shortfall in investment would then lead to a subsequent reduction in assistance, and conversely more rapid increases in saving and investment would call for a subsequent increase in assistance. However, this straight-forward application of the principle implies a degree of competence in execution of other aspects of development policy and of confidence by the donors which probably does not exist at present in any Latin American country. Nevertheless, it may suggest a goal for future assistance policy which could have a dramatic political as well as economic impact on the more progressive Latin American countries.

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[1] While these seem to be the most promising models, I would not exaggerate their past effectiveness. Aid has been both more ample and more effective in Pakistan.

A number of more modest variants of the matching principle can be devised which embody more of the conventional controls on aid expenditures but still provide incentives to greater and more effective development efforts. The United States and other donors could offer to supply certain categories of imports to support the fuller use of existing capacity (as in Pakistan and India) or to finance specified proportions of an increase in investment in certain sectors of the economy. In the case of Latin America, such loans could be tied to increased public investment and a variety of policy and organizational targets. The latter include price, credit and import policies and reform programs designed to overcome shortcomings in a particular sector, such as in agriculture or education. In these more partial approaches, care must be taken to avoid a reduction in development expenditures in other priority sectors.

Whatever methods of incentive programming may be adopted, the most effective way to implement them is through a periodic review of each country's development program and current performance. A review by an international body whose opinion is respected by the donors would be greatly preferable to the separate reviews by each agency which is the current practice in Latin America.

So far, only the World Bank has enjoyed the necessary confidence of both donors and recipients to perform this function, but there would be many advantages to building up C.I.A.P. or the I.D.B. for this purpose.

The Form of Aid. The forms of aid should be designed both to supply the priority needs for imports and to enable influence to be exerted on resource allocation and development policies when necessary. These requirements suggest that a mixture of project and program assistance will be desirable in most countries, with a larger non-project component in countries having more effective development programs.

Many of the high priority sectors in Latin America -- education, agriculture, small industry -- require local resources more than imported goods. Sector programs, which involve program lending combined with effective control of the local currency counterpart, are a more effective way of shifting resources to such priority sectors than is project lending. The commodities imported to support these sector programs can be chosen to fit the overall balance of payments needs of the country and the possibilities for supplying investment goods from within

Latin America. The control of resource allocation would be effected primarily through advance budgeting of local currency.

Controls. The present system of U.S. aid administration is intended to make individual activities with which aid is associated more efficient and to obtain various secondary benefits for the U.S., mainly, procurement from U.S. sources. While it is politically unrealistic to suggest major changes in many of the existing controls, even where they are demonstrably counter-productive, it should be possible to redesign the control system so that its main objective is the development of the recipient country rather than securing secondary benefits to the U.S.

The essence of any control system is a measurement of performance against agreed objectives and criteria for the activity. Under the broader approach suggested here, the effectiveness of aid should be measured by the results of the sectoral programs and the overall development policies which aid is designed to influence. In Latin America, as elsewhere, an appropriate control system would probably involve bilateral sanctions to achieve internationally agreed objectives. Under such a system, sanctions and incentives can be applied in the programming of new funds as well as through the release of funds already allocated.

IV. CONCLUSIONS.

The basic approach adopted in this paper has been to examine the prospects for Latin American development under alternative assumptions and to calculate the probable cost to the United States in foreign aid of a more satisfactory form of development. My principal conclusion is that a continuation of current policies and performance by the Latin American countries is likely to produce results that are increasingly unsatisfactory in social and political terms. Without an improvement in development policies, however, the cost to the United States of trying to finance accelerated growth through increased assistance would be very high.

A consideration of feasible improvements in policies concerning taxation, balance of payments, investment and other aspects of development shows that a substantial acceleration in growth could be brought about with a moderate increase in assistance. The maximum required from the U.S. and other sources would be substantial but well within the share of investment that was originally expected to be financed from abroad under the Charter of Punta del Este.

An AID strategy is advocated which would only make available increased assistance to countries which substantially improve their development performance. The greater the success of this approach, the greater the aid that might be required in the next few years. However, it would be very much more effective in securing a rapid approach to adequate levels of income and employment and an economic structure to sustain them in the future. In the long run, this result can be obtained at less cost to the United States by encouraging accelerated development than by continuing the present more restricted policies.

In order to secure greater incentive effects from the aid provided, it may be necessary to accept greater risks of poor performance. The risks of a well-designed program appear to be quite modest in comparison to the importance to the United States of more satisfactory economic and political development in Latin America.

ANNEX A: Latin American External Financial Requirements and Availabilities, 1961-1965.

Ernest Chase, Office of Regional
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I. The Latin American Balance of Payments .1

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LATIN AMERICAN EXTERNAL FINANCIAL REQUIREMENTS AND AVAILABILITIES, 1961 - 1965

I. The Latin American Balance of Payments

The main elements in the balance of payments of the 18 Latin American Republics (excluding Venezuela) for the five years 1961-1965[1] were as follows:

1) A current account deficit declining from roughly $1.7 billion to about $600 million;

2) A gross inflow of external resources (autonomous, compensatory, and net short-term) of about $3 billion a year;

3) A net inflow of external resources declining from $1.9 billion to $1.4 billion as the balance of payments improved and Latin America paid off prior compensatory credits;

4) A relatively steady net inflow of autonomous long-term external resources at a level of $1.2 to 1.4 billion, of which $900 to 1,000 million represented long-term loans and grants and the rest direct investment;

5) An outflow of earnings of foreign capital, both public and private, increasing from roughly $800 million to $1,100 million.

The net effect was a decline in gross international reserves of about $500 million in the period 1961-1962 and an increase of about $800 million from 1963 through 1965. Latin America's

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[1] Or 1964, when 1965 data not available.

TABLE 1

FINANCING OF LATIN AMERICA'S CURRENT ACCOUNTS DEFICIT, 1961-1965

(18 Republics, excluding Venezuela)

	Average 1956-60	1961	1962	1963	1964	1965
Current Account Deficit	-955	-1,690	-1,602	-821	-918	-569
A. Net External Non-Compensatory Funds						
Direct Investment	543	390	441	332	399	
Long-term Loans to Private Sector	182	367	280	- 7	142	
Long-term Loans to Public Sector	139	554	497	726	745	
Official Donations	99	129	134	136	129	
Short-term Capital	128	202	151	98	278	
Total	1,091	1,643	1,503	1,285	1,693	
Excluding Short-term	(963)	(1,441)	(1,352)	(1,187)	(1,415)	
B. Net External Compensatory Funds	202	271	251	176	-309	
C. Total External Funds	1,293	1,914	1,754	1,461	1,384	
D. Errors and Omissions and Domestic Capital	-321	-298	-608	-332	-414	
E. Total Availabilities	972	1,616	1,146	1,129	970	1,057
F. Gross Foreign Exchange Reserves (- = increase)	-17	74	456	-308	-52	-488
Memorandum Item:						
Investment Income Outflow	573	832	835	821	1,007	1,102

SOURCE: Data from ECLA, Economic Survey of Latin America, 1965; in turn, based on IMF Balance of Payments Yearbook.

reserves dropped from $2.3 billion at the beginning of 1961 to $1.7 billion at the end of 1962 and then improved to $2.6 billion at the end of 1965.[1] At this level, they represent the equivalent of slightly over 3 months' imports.

If the net movement in external compensatory funds is added to changes in gross reserves, the movement in Latin America's net international reserve position may be estimated as follows:

	1961	1962	1963	1964
(- = decline)	-345	-707	/132	/361

Thus the net reserve position deteriorated by over $1 billion in 1961 and 1962 and improved by about $500 million in 1963 and 1964. Net reserve figures are not available for 1965, but the improvement should have been larger than the $500 million increase in gross reserves in view of substantial liquidation of short-term monetary liabilities during 1965.

It can be seen from Table 1 that inflows of foreign funds have consistently exceeded the amount needed to finance the balance on current account and external debt amortization and did so by large amounts in 1963 and 1964. Net inflows exceeded net financing requirements by an average of $552 million in 1963 and 1964 and probably by an even larger amount in 1965. The excess inflows in 1963-1965 have in part gone to rebuild gross reserves by about $800 million and in part to finance the outward movement of domestic capital.

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[1] Slight discrepancy reflects different source.

TABLE 2

EXTERNAL CAPITAL AVAILABILITIES - LATIN AMERICA REPUBLICS - 1961-1964

(Excluding Venezuela)

		1961	1962	1963	1964
1.	Long-term Autonomous Loans & Grants-Gross	1,862	1,834	1,710	2,021
2.	Net Short-term Autonomous Loans	202	151	98	278
3.	Net Direct Investment	390	441	332	399
4.	Compensatory Funds - Gross [1]	468	577	718	81
5.	Total	2,922	3,003	2,858	2,779
6.	Total Autonomous (1+2+3)	2,454	2,426	2,140	2,698
7.	Total Autonomous Long-term (1+3)	2,252	2,275	2,042	2,420
8.	Amortization of Long-term Autonomous Loans	810	922	855	1,004
9.	Amortization of Compensatory Loans	197	326	542	390
10.	Total Amortization of Loans	907	1,248	1,397	1,394
	Net (5-8-9)	1,915	1,755	1,461	1,385
	Net Autonomous (6-8)	1,644	1,504	1,285	1,694
	Net Autonomous Long-term (7-8)	1,442	1,353	1,187	1,416
	Net Autonomous Long-term Loans and Grants (1-8)	1,052	912	855	1,017
	Net Compensatory (4-9)	271	251	176	-309

[1] Short-term liabilities of monetary authorities included on net basis.

SOURCE: Data from ECLA, Economic Survey of Latin America, 1965; in turn, based on IMF Balance of Payments Yearbook.

If the situation is examined in terms of resource transfers, and total debt service (interest and amortization) is taken into account, Latin America annually received net autonomous long-term external resources of roughly a half billion dollars. It is clear that Latin America is a region that requires very large amounts of gross capital inflow to accomplish a resource transfer of any magnitude. At the end of 1965 close to one-third of the $38 billion aggregate public indebtedness of developing countries was owed by Latin America, and a considerable portion of foreign direct private investment in developing areas was located in Latin America. Thus, the level of Latin America's international indebtedness is now so large that total annual debt service, including private capital earnings and amortization of compensatory debt, is of the order of magnitude of $2.5 billion.

II. External Capital Flows and Repayments

After declining in 1962 and again in 1963, in 1964 net autonomous capital exceeded the 1961 peak of $1,643 by $50 million. Available data indicate a total in 1965 for the U.S. and international agencies similar to that of 1964(although the U.S. share increased), but data for European and private loans and credits are not available.

More interesting is the evolution in the components of the net autonomous capital flow. The most striking change was in long-term loans to the private sector, mainly supplier credits. This declined net from an average of $325 million 1961-1962 to an average of only $70 million in 1963-1964, or by about $250 million. It is of interest that Eximbank net project lending for the same years, mostly to the private sector, dropped even more, from an average of over $200 million in 1961-1962 to a net return flow averaging $70 million in 1963-1964, or by almost $300 million (Table 3).

TABLE 3

AUTONOMOUS LONG-TERM FINANCIAL FLOWS TO LATIN AMERICA (excl. Venezuela) 1961-1965

GROSS	GROSS 1961	1962	1963	1964	1965	AMORTIZATIONS 1961	1962	1963	1964	1965
U.S. Grants	150	174	234	222	301	-	-	-	-	-
AID Loans	108	187	214	233	280	1	1	5	9	8
PL 480, Title I & IV	140	79	85	145	38	3	3	5	5	5
Eximbank 2/	437	217	123	60	99	118	119	136	189	136
Social Progress Trust Fund	1	19	48	56	67	1	-	1	3	4
Total U.S. Government	836	676	704	716	785	123	123	147	206	153
IBRD Group	101	153	251	219	157	34	40	49	50	66
IDB										
Ordinary Capital	2	28	56	101	79	-	-	1	4	3
Fund for Special Operations	3	9	15	21	29	-	-	-	-	3
Total International	106	190	322	341	265	34	40	50	54	72
Guaranteed Supplier Credits (Net)	316	172	164	1/						
U.S.	-	(18)	(26)							
Other	(316)	(154)	(138)							
Direct Investment, Net	390	441	332	399						
Other	604	796	520	964		653	759	658	744	
Total	2,252	2,275	2,042	2,420		810	922	855	1,004	

1/ Included in "other".
2/ Reschedulings excluded.

SOURCES: Department of Commerce balance of payments worksheet for U.S. data other than PL 480 for which shipment data provided by PC/SRD have been used.
CIES/847, February 1966 for other offical flows;
OECD, Geographic Distribution of Financial Flows to LDC's 1960-1963 for supplier credits;
ECLA, Economic Survey of Latin America, for direct investment and other.

It would appear, then, that European supplier credits continued to expand throughout the period, while the Eximbank greatly reduced its financing of U.S. exports to Latin America.

Public sector loans, on the other hand, increased by an average of roughly $200 million, thus almost offsetting the decline in loans to the private sector.

Direct investment remained fairly steady at slightly under $400 million a year. This represented a decline of about $150 million from the average for the previous five years, when direct investment was the main source of autonomous capital. Direct investment from the U.S. (as recorded in the U.S. balance of payments) represented about half of the total, but a large part of the rest represented the reinvested earnings of U.S. subsidiaries.

The gross total autonomous capital inflow increased by about $250 million between 1961 and 1964, of which $200 million financed increased amortization of such loans and $50 million represented a net increase.

Net short-term foreign capital inflows were between $100-200 million annually, except in 1964, when they reached $278 million. This reflected an exceptional inflow of short-term bank loans from the U.S., totalling over $400 million net.

Compensatory capital inflows on a net basis were of declining importance and in fact were negative by $309 million in 1964. This change reflected liquidation of part of the high level of such obligations incurred in the late 50's and early 60's in the face of balance of payments pressures. Such funds represented a net inflow of over $1 billion in the five years 1956-1960 and of $700 million in the period 1961-1963. Amortization of compensatory loans amounted to about $550 million in 1963 and $400 million in 1964.

The main sources of financing for long-term autonomous loans and grants are the U.S. official agencies and U.S. funds made available through the IDB Social Progress Trust Fund, the international lending institutions, and supplier credits (Table 3). Total funds provided by the U.S. Government in 1965 were close to the 1961 peak of over $800 million. Funds provided by the international agencies roughly tripled between 1961 and 1964-1965, to about $300 million, but the 1965 total is under 1963 and 1964 totals. Together these two sources provided roughly one-half the gross inflow of autonomous loans and grants.

The gross inflow of other long-term autonomous credits totalled $700 to 1,000 million a year. A major part of these funds were supplier credits; other sources include European Government loans, U.S. and European bank loans, and portfolio investment. It can be seen from Table 3, however, that on a net basis these sources came close to cancelling out, except for net supplier credits. Net European supplier credits amounted to $316 million in 1961, $154 million in 1962, and $138 million in 1963. U.S. supplier credits are also important, but in the early 60's most of them were not guaranteed, and thus are not shown in Table 3.

Of the net inflow of long-term autonomous loans and grants 1961 through 1964, $3.8 billion, the U.S. Government and international agencies provided $3.1 billion or over 80 per cent of the total. Net supplier credits roughly account for the remainder.

ANNEX B: Alternative Projections of Development and Capital Inflow to Latin America --- (1966-1976)

Peter Eckstein, Harvard University

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I. THE APPROACH TO AID REQUIREMENTS

Our projections of capital inflows are based on the view that there are two major obstacles to increases in the rate of economic growth in Latin America. Several recent studies of individual countries in the region* have shown that it will require a substantial change in their patterns of output to enable them to accelerate growth without increasing the gap between imports and exports. At the same time, other countries may be held back because they are unable to save enough to meet the high investment requirements of faster growth.

The theoretical basis for this "two gap" approach to the determination of aid requirements has been set out by Chenery and Strout.** The basic method is to define prospective "savings gaps" and "trade gaps" associated with the projected growth and performance of each country in each year covered. The prospective savings gap is the difference between the gross investment required to attain the specified growth target and the gross savings which the domestic economy is capable of generating. The prospective trade gap is the difference between the imports which are required to sustain the specified growth and the imports which the economy is expected to produce and sell. Since both gaps must be filled if growth is to be realized, the larger of the two determines the amount of external capital required.

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* See, for example, 1, 5, 8, 9, 11.

** The recent article putting forth the model(3) is a revision of an A.I.D. discussion paper (4).

When a given amount of foreign capital is actually provided, it performs two indivisible functions corresponding to the two gaps. It permits investment to be greater than actual domestic savings and permits actual imports to be greater than exports -- and both by an equal amount. In retrospect, then, after such capital has been supplied, the economy must have adjusted so as to make the two gaps equal. If the trade gap had been the larger of the two prospective gaps, i.e., if external capital had been more than was needed to fill the prospective savings gap, then the model ordinarily assumes that actual savings fall short of potential savings. For example, taxes may be at lower levels than the economy could sustain because large inflows of capital filling a trade gap make higher levels unnecessary. If, on the other hand, the prospective savings gap had been the larger, actual imports will be larger than those required for growth. For example, these imports may include not only the raw materials and capital equipment required to sustain growth, but also dispensable or postponable luxury goods. These may be substituted for domestic consumption goods if this is the only form in which consumers are able to spend the foreign exchange which was provided to bolster inadequate saving levels. Unless the two prospective gaps are fortuitously equal, then, provision of the external capital required by the larger necessarily permits less-than-full-potential effort with regard to the smaller. *

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* The method followed begins by specifying targets for growth which, together with the level of domestic performance hypothesized, determine external capital requirements. This is a matter of computational convenience, however. When several possible growth targets are compared, as in Section III of this annex, the results may also be seen as indicating the amount of growth which could be obtained from a specified amount of external capital.

The model employed for the projections is an extension f that developed by Chenery and Strout. As in the original odel, gross investment requirements for a particular year are etermined by a target rate of growth ($\bar{r}$) and an incremental apital-output ratio (k). Possible limits on a country's apacity to absorb additional capital are recognized by a onstraint on how fast gross investment is permitted to grow rom year to year ($\bar{i}$). Potential savings are determined by he previous year's potential and propensity to save from addiional income (α'). The prospective savings gap is the difference etween required investment and potential savings, thus defined.

Exports are, as a first approximation, assumed to grow xogeneously by a given percentage (ϵ) each year. Required mports are given by the previous year's requirements and the ropensity to import from additional income (μ'). The prospective trade ap is the difference between exports and potential imports, hus defined. The requirement for foreign capital is the larger f these two gaps.

The two gaps and one constraint define the three phases hrough which a country may pass. 1) Even the relatively iberal constraint of 15 per cent on the growth of investment ssumed for most of the countries in the projections implies hat all of them must move gradually from present growth rates o higher target growth rates. 2) Most, when they begin growng at the target rate, experience a savings gap which is greater han the prospective trade gap and are thus said to be in a phase f "savings-constrained" growth. 3) Countries typically have arginal savings rates which are sufficiently higher than initial verage rates that the growth of national income can steadily aise the average. Such countries eventually shift either to a phase of "trade-constrained" growth, when the trade gap is the principal determinant of foreign capital requirements, or directly to economic self-sufficiency.

II. THE PROJECTIONS

A number of variants of the two-gap approach can be developed to correspond to different assumptions about the effectiveness of government policy. We have made six such projections in order to indicate the full range of possibilities from pessimistic to highly optimistic:

(I) Historical Growth

- (A) Historical Performance
- (B) Lower Imports, Higher Exports

(II) Accelerated Growth

- (A) Historical Performance
- (B) Higher Savings, Lower Imports, Higher Exports
- (C) Lower Capital Requirements
- (D) Maximum Performance -- a combination of the improvements of B) and C) as a basis for estimating the minimum capital flow required by a country having good development planning and policies.

The basic elements of the projections were "historical" GNP growth rates (r) and performance parameters (α', k, μ', ϵ) mainly derived from econometric analyses of the statistical record of the period 1950-1965. Current values for GNP, investment and trade were not based on the inadequate estimates for 1966 now available but rather on the averages for the years

1963-65 extrapolated to 1966 with the use of the historical growth and performance parameters. They should thus be seen as "trend values" for the year rather than actual estimates.

In several cases considerable judgment had to be exercised in selecting among conflicting estimates or in rejecting unsustainable short-term trends as a basis for extrapolation. This judgment tended toward the optimistic, since the parameters were intended to represent the proven capability of the economy rather than simply its average performance, and since the two-gap theory suggests that raw historical estimates may have a pessimistic bias.*

The historically-derived estimates of growth rates were used in the projections labelled I-A and I-B in the Chenery paper; the historically-derived performance parameters were used in the projections labelled I-A and II-A. Higher growth and performance estimates were made in a variety of ways, all of them based on the historical record.

a) Accelerated Growth (Projections II, A to D)

In attempting to describe comparable increases above historical growth rates (Projections I, A and B), we assumed that a country like Argentina, with a low historical rate, might experience less difficulty in increasing its rate by a given absolute amount, or by a given proportion, than a country like Mexico, whose growth rate was already very high.

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* That is, when the prospective gaps are not equal, and foreign capital fills the larger, it is the less-than-full-potential performance with regard to the smaller prospective gap which will be observed. Extrapolations of such performance might lead to an overestimation of aid requirements if the previously smaller gap should become dominant.

Comparable increases in growth rates were seen in relation to an 8 per cent rate, which appeared from the historical record to represent an approximate physical limit for Latin America.* Specifically, "accelerated growth" was defined as an increase to a rate one-half of the way between the historical and 8 per cent. Thus, for Argentina it meant moving from an historical 2.75 per cent to a target of 5.37 per cent, while for Mexico, with more of its developmental potential already exploited, it meant moving from 6 per cent to a target of 7 per cent.

b) High Exports and Import Substitution
(Projections I-B, II-B, II-D)

The primary justification of long-term developmental assistance is the fact that poor countries are typically unable to save the full amounts required to meet the investment costs of rapid development. While any country, rich or poor, is capable of running a chronic balance of payments deficit, there are few, if any, underdeveloped countries so poorly endowed that they are not able to reallocate investment toward exports and import substitutes if a dominant trade gap persists. Eventually they should be able to produce enough in these lines to eliminate the excess of the trade gap over the savings gap. To approximate this phenomenon, the model specifies (under high trade performance assumptions) that in any given year a country faced with an excess trade gap will direct a part of current investment so as to reduce the trade gap in the next year by one half of the current excess.

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* This assumption is relaxed, and higher growth rates are considered, in section III of this annex.

The assumption, then, is that investors or planners -- presumably under the influence of devaluation or government investment incentives -- will make some response to such gaps, -- but one which is based on actual experience rather than perfect foresight and which is partial rather than complete. We assume, as a first approximation, that this "exchange-saving investment" is equally divided between exports and import substitutes. We also assume that such investment entails a capital-output ratio which is 20 per cent higher than that applied to ordinary investment. This reflects the probability that the domestic currency had been overvalued, from the perspective of which export proceeds are smaller and imports more competitive with domestic substitutes than under an equilibrium exchange rate. Meeting the additional investment requirements then requires domestic saving closer to full potential levels.

The diversion of investment to exchange-saving lines was not considered to be highly dependent upon higher growth but rather to be primarily a function of the wisdom and efficiency of trade and allocation policies. This improved trade performance is the basis of the more optimistic capital inflow projection at historical growth rates, as well as part of the better performance projected at accelerated growth rates.*

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* Since optimistic export projections for Brazil, Chile and Colombia were provided in the country studies by A.I.D. economists, these, rather than estimates of exchange-saving investment, were the basis of our assumptions as to better trade performance for those three countries.

c) High Savings (Projections II-B, II-D)

Based on reasoning parallel to that used for growth rates, increases in marginal savings rates were judged comparable in relation to the highest observed performance in other developing countries. "High savings" for each country was defined as movement to a rate halfway between historical rates and this presumed limit of 35 per cent. Thus, Chile, with an historical rate of 13 per cent, was assumed to be able to increase to 24 per cent, while Mexico, with an historical rate of 21 per cent, was assumed to be capable of a smaller absolute increase, to 28 per cent.

The ability to divert a substantially larger share of increased income to savings was considered possible only if annual increases in income were larger. Hence "high savings" performance is associated in the projections only with accelerated growth rates.

d) Lower Capital Requirements (Projections II-C, II-D)

The definitions of better trade and savings performance given above represent efforts to estimate potential improvements. By contrast, the lower capital requirements specified for two of the "accelerated-growth" projections represent an alternative way of interpreting the historical record itself for purposes of extrapolation.*

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* This is not to imply that a capital-output ratio is beyond governmental influence. The allocation of investment to labor-intensive projects and planning to avoid bottlenecks and underutilization of capacity can both reduce the ratio. A more complete theoretical discussion of the variable ratio is included in [2].

The "historical" capital-output ratios utilized are averages of the experience of each country over the past 12-14 years. As such, they should be a valid first approximation of the investment requirements for additional growth at the same rates as were experienced during that period. Several recent discussions of the capital-output ratio, however, have concluded that the ratio should be expected to be -- and almost always is -- lower at higher rates of growth [6, 7, 10]. For example, higher growth rates usually entail better utilization of capacity, and at such rates a smaller share of gross investment is likely to be allocated to the replacement of old equipment (which makes growth possible but contributes little to it) and to the building up of social overhead facilities with heavy capital requirements.

When the historical experience of the Latin American countries was analyzed, almost all were found to experience lower ratios during periods of higher growth. Causation probably runs both ways, however. For the projections using "lower capital requirements," we have therefore taken only one half of the reduction actually observed for each country to represent the effect of the composition of investment on the capital-output ratio. The formula used to define those lower requirements assumed that the historical ratio would apply to the basic investment required to attain the historical growth rates, but that a lower ratio would apply to the additional investment required to achieve higher levels of growth. In no case was that lower ratio permitted to fall below two, keeping it close to the lowest historical ratio for all investment observed among the 16 countries (2.47 for El Salvador).

Because this interpretation of capital requirements may prove controversial, projections have been provided based on both the rigid ratios (II-A, II-B) and the flexible ratios (II-C, II-D).*

Separate projections were made for 16 Latin American countries (19 O.A.S. members, less Uruguay, Haiti and the Dominican Republic).** For each country a required capital inflow/outflow or resource transfer was calculated for each year, 1967-76. The inflow was defined as the deficit on current account (i.e., imports less exports of goods and services) less the net outflow of "investment income" (interest and profit on existing capital). This departs from conventional practice in which outflows of investment income are considered as payments for imports of the services of capital. However, the repatriation of such payments is discretionary, and it is based on a previous, not a current, transfer of resources. It seemed more appropriate to consider it as part of the capital flow, since it requires an equal inflow of direct investment or some other form of capital to prevent a current outflow of resources.

In calculating the capital requirements of Latin America as a whole, only the inflows required by deficit countries were added. This was because we assumed that the considerable surpluses projected for several countries, notably Venezuela (see Figure II of Chenery paper), would not make any contribution to meeting the capital needs of deficit countries. This assumption seems valid under existing institutional arrangements. There may be room, however, in a fully multilateral Alliance for investment guarantees or other devices which could channel more Latin American capital from surplus to deficit countries.

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* Readers who accept the view that lower ratios are a natural concomitant of higher growth rates may wish to disregard projections II-A and II-B. Projection II-C should then be viewed as an extrapolation of historical experience to a period of higher growth rate, and II-D as based on the assumption of increased developmental effort only with regard to savings and trade.

** Projections for Brazil, Chile and Colombia were based on the special studies of those countries by A.I.D. economists, as described in Section VII.

III. ALTERNATIVE PROJECTIONS

The projections in the Chenery paper compare only two growth rates and four performance levels. In this section we explore further the prospects for Latin American development and its costs in external capital by considering a wider range of growth rates and by analyzing the effects of variations in individual performance parameters.

a) Growth Rates

Any target growth rate selected for the future of the Alliance for Progress must meet the tests of progressiveness, feasibility and reasonableness. It must be progressive as measured against the aspirations for higher standards of living throughout Latin America; feasible, as measured against the capacities of the Latin American economies for structural change; and reasonable, as measured against the ability of the United States economy and willingness of its people to transfer additional resources for the long-run prosperity of Latin America. Because of the importance of the rate selected, whether formally or informally, as a basis for the United States aid program, several methods of arriving at overall and per capita growth rates are analyzed here. Feasibility is checked by the assumption that no country, whatever its target rate of growth, increases its gross investment by more than 15 per cent per year.* The analysis itself is designed to describe the trade-off between realized growth and external capital costs.

Figure B-I compares levels of 1976 GNP for the 16 Latin American countries with the total capital inflow required to attain those levels under each of the four performance assumptions, A, B, C and D. Target growth rates for each country are varied along each of the curves from historical rates to 8 per cent. For example, the middle range of the D curve describes growth halfway to 8 per cent for each country at maximum performance and corresponds roughly to the II-D projections in the Chenery paper.** It indicates that realization of a GNP growth rate of 6.5 per cent (3.5 per cent per capita), would require an average annual capital inflow of $850 million. The highest growth rate given under high performance assumptions, 7.25 per cent for GNP (4.25 per cent per capita), would entail average annual capital inflows of $1.77 billion.

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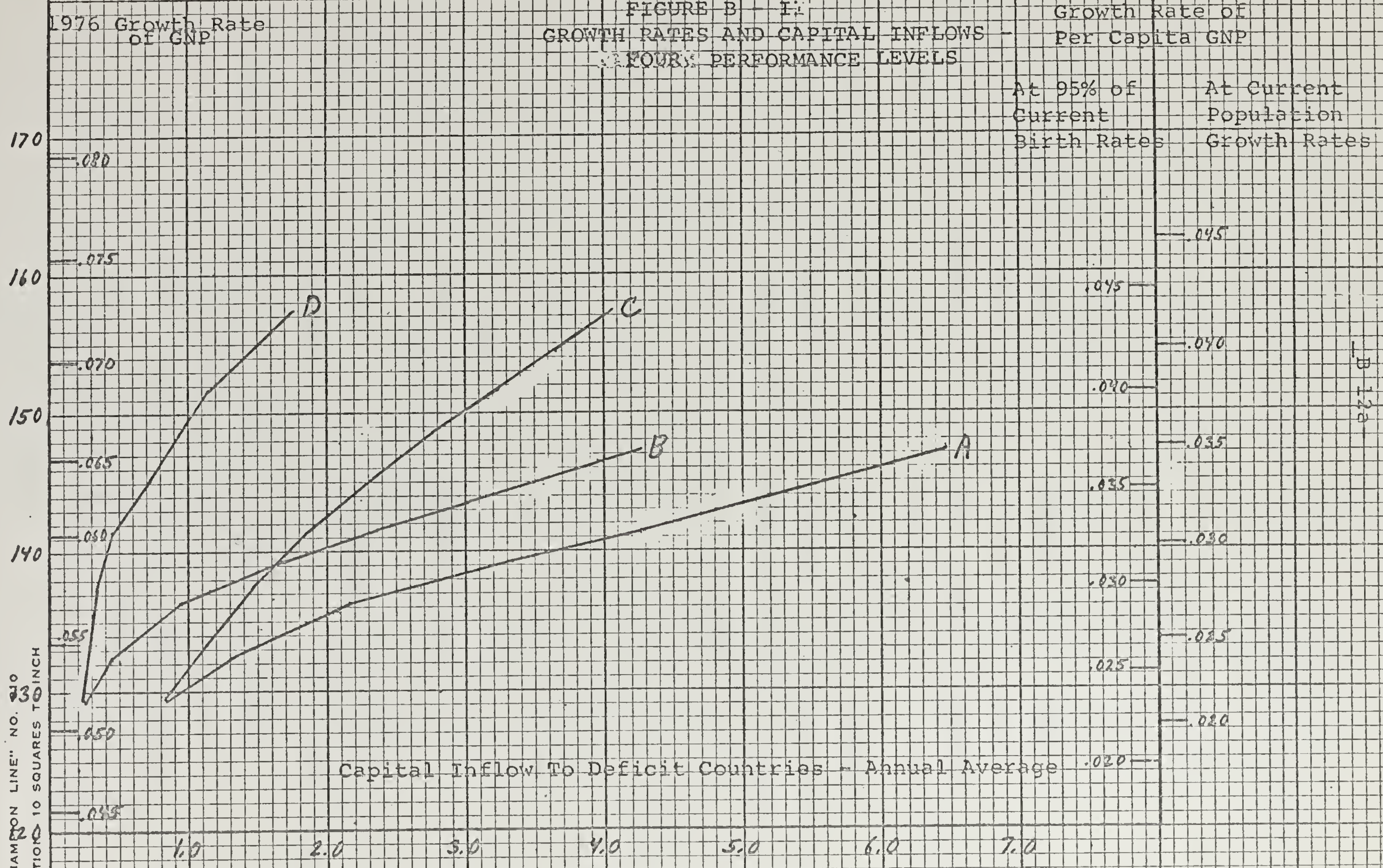
* This does not insure feasibility, however, both because the 15 per cent constraint may be too high for some countries and because rapid overall growth entails even faster growth of some sectors, which may not be equal to the task.

** The correspondence is only rough since all the calculations for this graph used the same formula for target growth rates for each of the 16 countries, rather than the particular targets used in the three country studies.

FIGURE B - I

GROWTH RATES AND CAPITAL INFLOWS - FOUR PERFORMANCE LEVELS



"THE CHAMPION LINE" NO. 130
CROSS SECTION 10 SQUARES TO INCH

As the slopes of the curves indicate, under high performance assumptions additional growth in the neighborhood of 7 per cent (4 per cent per capita) can be bought at the rate of about 10 dollars of annual GNP for an annual average of one dollar of capital inflow.

For all other performance levels capital inflow requirements rise much more rapidly. From overall growth rates as low as 6 per cent an additional 10 dollars of GNP will increase annual external capital requirements between 1.3 dollars (C performance) and 3 dollars (A and B).

Somewhat higher growth rates are described in Figure B-II, which compares 1976 GNP and ten-year capital inflow totals under high-performance assumptions. For this analysis country growth targets for each country were varied between 2 per cent and 7 per cent per capita. The constraint on investment growth, however, prevented realized growth from going beyond 4.8 per cent per capita over the period as a whole. As the slope of the curve indicates, additional growth in the area of 4.5 per cent per capita is projected to cost about 1.4 dollars in average annual external capital for every 10 dollars of annual GNP. It would cost $1.1 billion per year over ten years to increase per capita growth by one half of one per cent, from 4.25 to 4.75 per cent. */

If the United States chooses to state its goals or measure its success in promoting development within the Alliance in terms of per capita growth of GNP, Figures B-I and B-II may also provide one measure of the cost of the high birth rates in most Latin American countries. On the right-hand vertical axis

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*/ See B 13-a.

*/ Each of the curves in Figures B-I and B-II indicates that equal absolute increases in GNP require progressively larger increases in external capital.

There are three reasons: (1) The savings constraint is operative longer at higher growth rates, implying a less efficient conversion of external capital to GNP; (2) At higher target growth rates the constraint on investment growth is more likely to restrict countries with high "historical" growth rates, giving less efficient users of external capital a larger share in total GNP growth; (3) The measure of total capital inflow is not affected by changes in outflows. At low growth rates, when countries are more often experiencing outflows in some years, increases in GNP will have less impact on the total inflow.

of both figures the GNP projections are converted to per capita rates under two assumptions -- that current population growth rates will continue and that the average birth rate can be cut by 5 per cent.* The external capital cost of attaining a given per capita GNP growth rate may be found by running a horizontal line from the corresponding point on both sides of the vertical axis, as is done in Figure B-II, representing high performance assumptions. The figure indicates that it would cost $550 million more per year to achieve a GNP growth rate of 4.75 per capita at historical birth rates than at birth rates only 5 per cent lower. The same method, if applied to Figure B-I, would indicate, for example, that for a per capita growth rate of 4 per cent the difference in annual external capital costs would be $470 million at the C level of developmental performance and $330 million at the D level. For a growth rate of 3.5 per cent the difference in annual costs would be $410 million at the C level and $180 million at the D level. If the latter figure may be taken as a lower limit, it implies that each birth in the relevant range raises the external capital requirements over ten years by a total of $287. This represents the cost to a donor country committed to underwriting a growth rate of 3.5 per cent per capita.

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* When current population growth rates are projected to 1976 they indicate a compound growth rate for the region of 2.94 per cent. For a typical country such a rate would represent the difference between a crude birth rate of approximately 4.36 per cent. A 5 per cent reduction in such a birth rate would mean a population growth rate of 2.72 per cent, which is the basis of the alternative projection.

If, as the data for Mexico suggest, the average Latin American woman will eventually have 4 children, then a 5 per cent reduction in the birth rate could be effected by persuading one woman in five to have one less child over her child-bearing years.

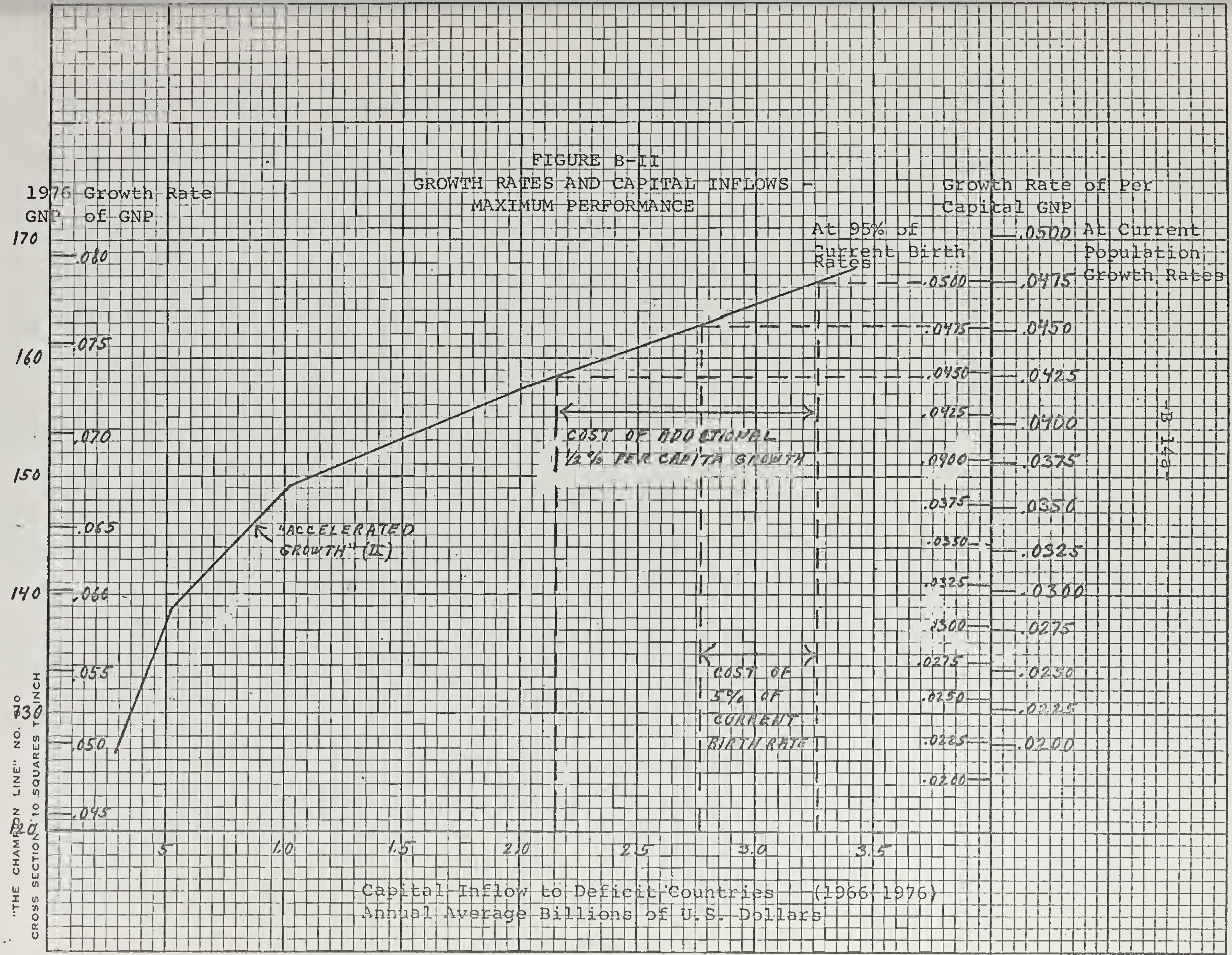

FIGURE B-II
GROWTH RATES AND CAPITAL INFLOWS - MAXIMUM PERFORMANCE

"THE CHAMPION LINE" NO. 810
CROSS SECTION 10 SQUARES TO INCH

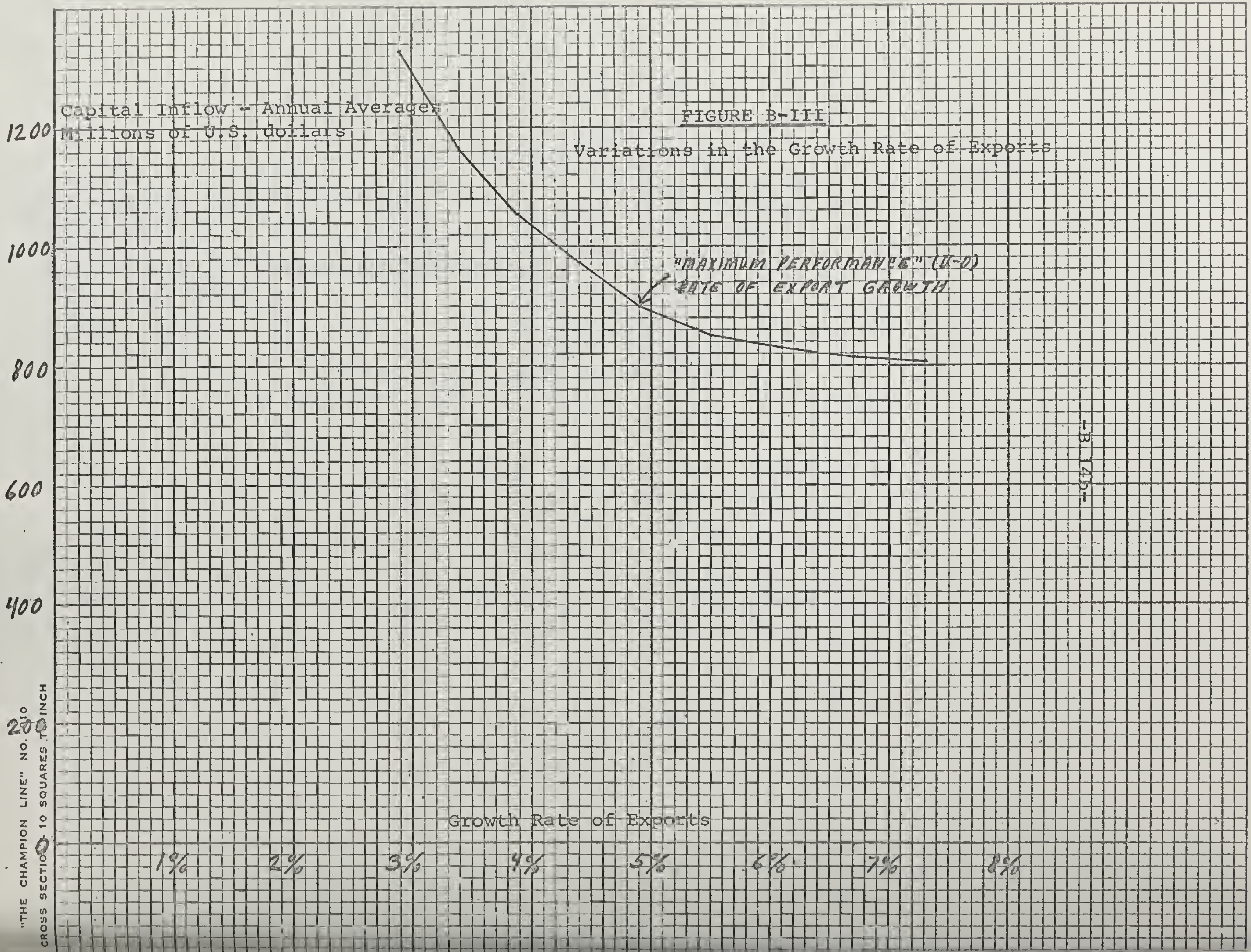

FIGURE B-III

Variations in the Growth Rate of Exports

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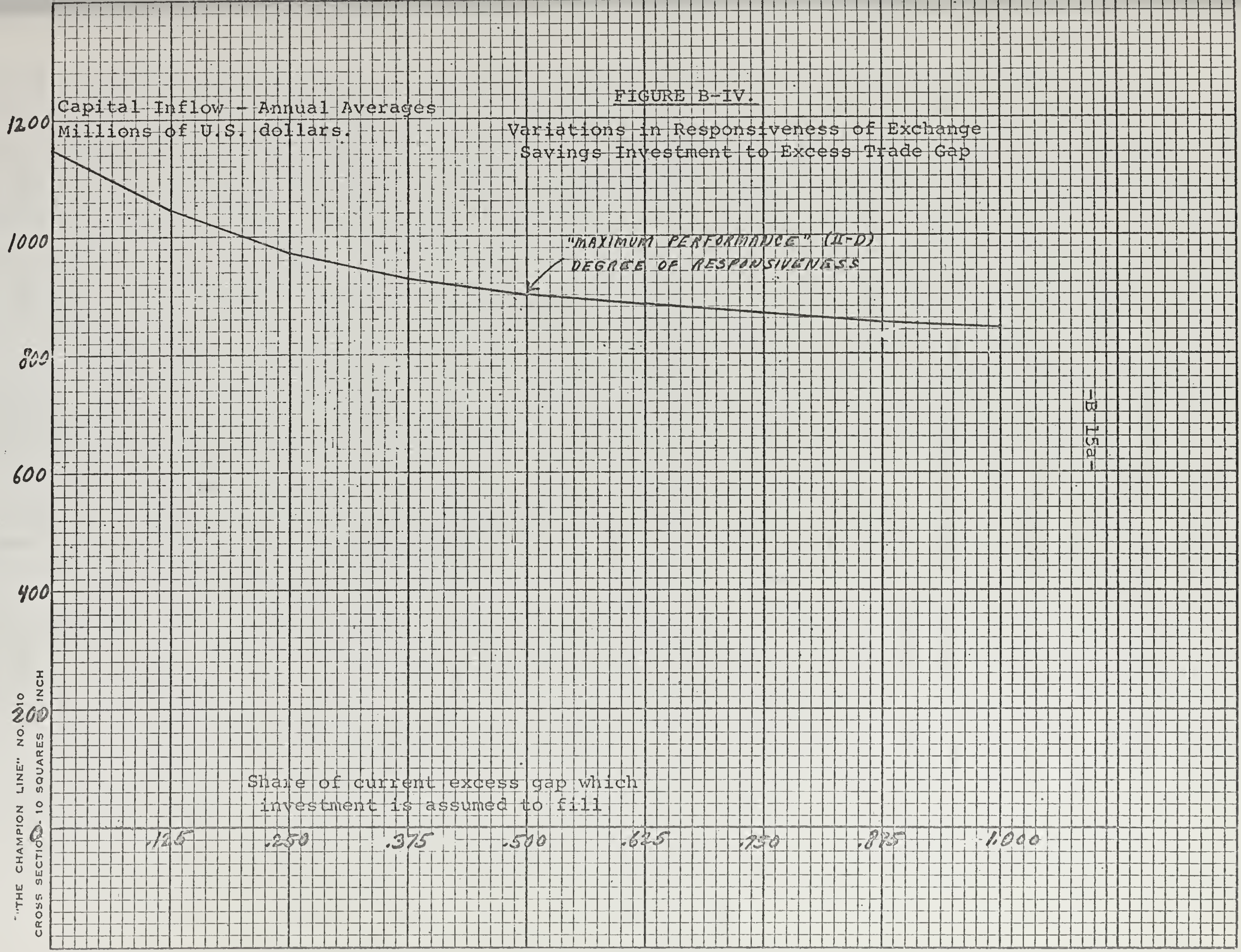

FIGURE B-IV.

Variations in Responsiveness of Exchange Savings Investment to Excess Trade Gap

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CROSS SECTION - 10 SQUARES INCH

b) Trade and Savings Behavior

The effect of variations in trade or savings performance has been analyzed using as a basis the "accelerated growth" and "maximum performance" (II-D) projections. Holding the other performance parameters constant at those levels, individual parameters -- the rate of export growth, the responsiveness of exchange saving investment, and the marginal savings rate -- were each let to vary in turn over a wide range of possible values. The results are presented in Figures B-III, B-IV and B-V. Figure B-III describes the effect on external capital requirements as export growth rates vary between one-half and one-and-a-half of historical rates for each country.* (The growth is assumed to occur autonomously or in anticipation of -- rather than in response to -- excess trade gaps.) The figure indicates that such improvements in trade performance can be a potent way of reducing the capital inflow requirements in the historical range of export performance, at which many countries will be experiencing trade-constrained development. As trade performance improves, however, diminishing returns rapidly set in. Extrapolation of the curve to the right suggests that even with extraordinary improvements in trade performance there is little prospect of reducing the annual external capital requirement much below an average of $800 million per year over the period.

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* The latter export growth rate, 7.3 per cent for the 16 countries as a whole, is close to the upper limit (8.2 per cent) of the wide range of export projections for 1964-70 prepared by Benjamin Cohen [4a]. Increases in exports are identical in their effects on external capital requirements to decreases in the marginal propensity to import.

The improvement in trade performance represented in Figure B-IV -- exchange-saving investment -- is assumed to occur only in response to a realized trade deficit (one which is larger than the savings gap would indicate), and the investment is assumed to require a year before it can influence the structure of production. The figure indicates that export growth and import substitution occurring in this way will be unable to reduce the average capital inflow requirement below $850 million per year over the period. Both figures suggest the severe limitations on efforts to foster accelerated Latin American development entirely through "trade, not aid."

Figure B-V describes the effect on external capital requirements of varying the potential marginal savings rate-- between its historical value for each country and the presumed limit of .35.* The figure shows that small increases in performance with regard to the savings gap can be highly potent even in the "maximum performance" range. For example, if actual marginal savings rates were to increase to .28 from the .2725 assumed under maximum performance (i.e., if the potential rate were to go 5/8 of the way to .35 for each country), this alone would reduce external capital requirements by $170 million a year. However, the persistence of trade gaps makes further increases in potential savings less and less effective in increasing actual savings. Even if every country had a potential marginal savings rate of .35, the actual marginal savings rate over the period would still be only .285, and the average external capital requirement of the region would still be half a billion dollars a year.

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[*] Increases in domestic savings are identical in their effects on capital inflows to decreases in the incremental capital-output ratio.

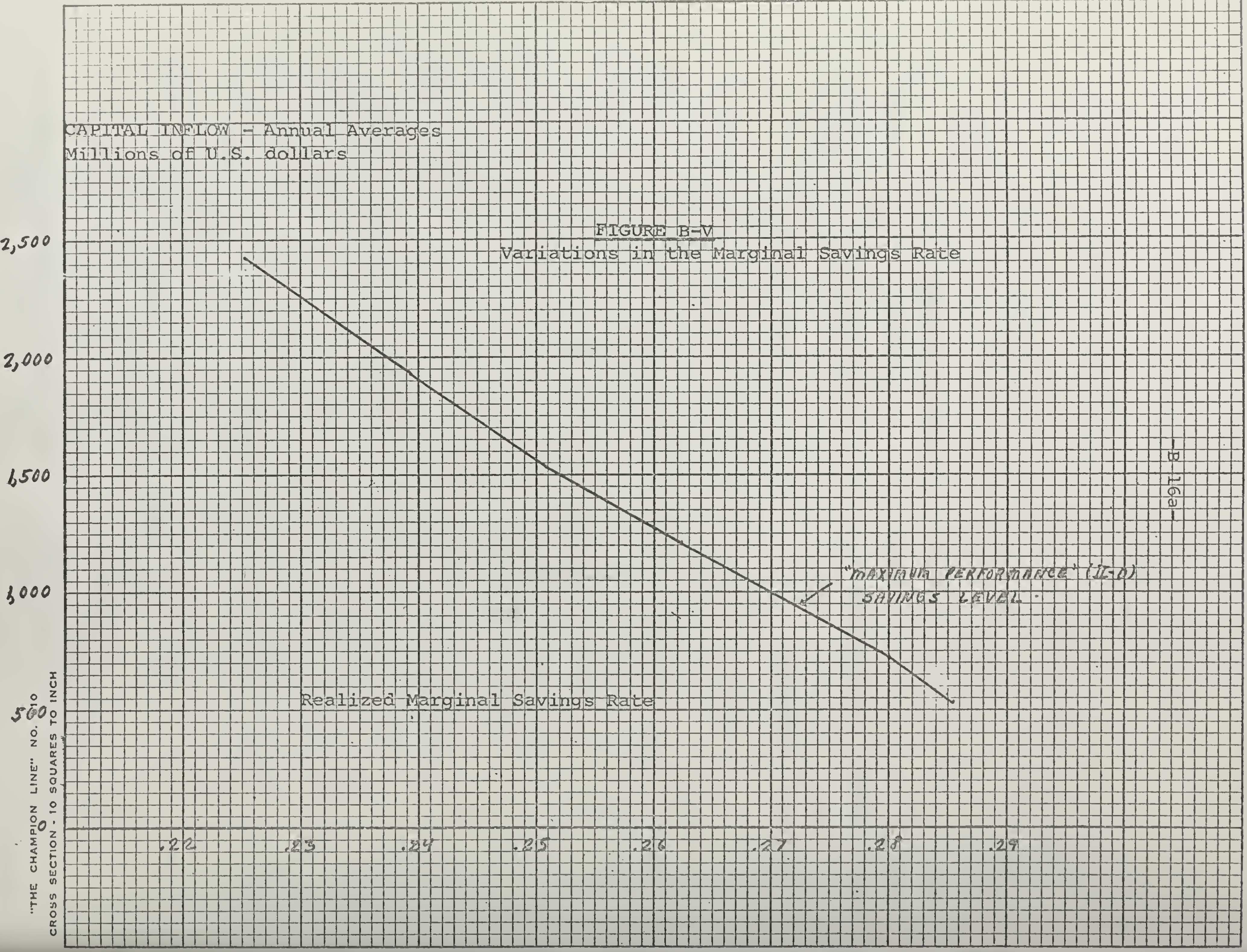

FIGURE B-V
Variations in the Marginal Savings Rate

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CROSS SECTION - 10 SQUARES TO INCH

What these analyses suggest is that no single panacea -- whether aimed at reducing the trade gaps or the savings gaps of Latin American countries -- can be expected to eliminate the need for increasing amounts of aid, at least in the short run. Efforts to reduce the savings gap -- more efficient taxation, reductions in military expenditures, steps against corruption, schemes to promote personal savings and agricultural and business reinvestment, import liberalization to permit fullter utilization of capacity -- may be more important in some countries. Efforts to reduce the trade gap -- export promotion, reductions in import discrimination by the developed countries, selective import substitution, and regional economic integration -- may be more important in others. For Latin America as a whole, however, all such efforts will have to be pursued if its full growth potential is to be realized.

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V. Maximum Performance Projections of Net Capital Inflows, 1966-67

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
BRAZIL											
Current Account Deficit	130	230	351	482	628	669	578	482	380	272	147
Investment Income	200	235	260	265	275	280	280	280	280	280	280
Net Inflow	-70	-5	91	217	353	389	298	202	100	-8	-133
CHILE											
Current Account Deficit	208	213	177	159	121	58	78	35	-11	-59	-101
Investment Income	124	158	171	182	193	213	232	230	228	225	221
Net Inflow	84	55	6	-23	-72	-155	-154	-195	-239	-284	-322
COLOMBIA											
Current Account Deficit	164	172	196	163	232	184	172	167	154	144	133
Investment Income	88	75	79	84	117	120	124	128	134	139	143
Net inflow	76	97	117	79	115	64	48	39	20	5	-10
MEXICO											
Net Inflow	-12	151	155	40	9	20	29	36	44	53	62
TWELVE COUNTRIES											
Net Inflow	338	452	506	550	587	585	600	596	590	582	575
TOTAL NET INFLOW to Deficit Countries	498	755	875	886	1,064	1,058	975	873	754	640	637

VI Maximum Performance Projections for Brazil, Chile and Colombia

Projections for the three economies individually studied in the country papers -- Brazil, Chile and Colombia -- were all based on the series included in those papers, but with some modifications in the cases of Brazil and Chile. The objective was a single set of projections for each country which retain the distinctive elements of the country analyses, but are more comparable to the projections for the other 13 countries in the ambition of their growth targets and the optimism of their performance expectations.*

The three accompanying tables describe the projected figures actually included.

The major modification of the Brazil and Chile projections are discussed below.

High savings performance was defined for the other 13 countries as the attainment of a marginal savings ratio halfway between the historical marginal ratio and .35. Applying this formula to the Brazilian historical marginal savings ratio of .17 produces a high-performance ratio of .26. This was within the range of .25 and .30 considered in the Brazil paper and was adopted for the overall projections.

---

* The high-but-attainable performance figures included in each country paper (as modified) were taken to correspond to the "accelerated growth, maximum performance" projections (II-D). For the projections intermediate between this and the purely historical (I-A) individual elements of the country projections were used to represent "lower capital requirements," "higher savings" and "high exports."

For the 13 countries the high target growth rate was defined as that halfway between the historical rate and .08. Brazil's "historical" growth rate of 5.76 per cent would accordingly be increased to 6.88 per cent as against the 8.00 per cent included in the paper. While the Brazil paper argues the feasibility of so rapid a rate from the standpoint of domestic economic institutions, with a marginal savings ratio of .26 growth of 8 per cent would require deficits on current account as high as $1.1 billion and net capital inflow as high as $890 million in 1971 (as against a net capital inflow of only $699 million for all the other Latin American countries). Rather than adopt a target growth rate and a capital inflow requirement which were both far out of line with those adopted for other countries, it was decided to reduce the Brazilian target growth rate for the purposes of the overall projections to 7.5 per cent. As in the paper, the target growth rate is only gradually attained, in this case by imposing a constraint of 12 per cent on the annual growth of investment, which permits 7.5 per cent growth of GNP by 1972.

b) Chile

The capital inflows indicated in the Chile paper are based entirely on indicated trade gaps, with the marginal savings rate treated as a residual to equalize the two gaps and allowed to go to .29. The general formula for higher savings performance would suggest that Chile could raise its historical marginal savings ratio of .13 as high as .24, but values as high as .29 seemed too far out of line with the other projections. Using .24, and accepting the (average) incremental capital-output ratio of 2.738, the savings gap has been calculated. It is larger than the trade gap for the years 1967 and 1972-75, and the revised projection indicates that the current account will not show a surplus until 1974 rather than 1972.

BRAZIL PROJECTIONS 1966-76

-:-

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
A) Gross National Product	20,000	21,200	22,543	24,048	25,734	27,622	29,694	31,921	34,315	36,889	39,657
B) Deficit on Current Account	130	230	351	482	628	669	578	482	380	272	147
C) Total Resource Availabilities (A+B)	20,130	21,430	22,894	24,530	26,362	28,291	30,272	32,403	34,695	37,161	39,804
D) Total Fixed Investment	3,468	3,884	4,350	4,872	5,456	5,988	6,436	6,919	7,439	8,000	8,595
E) Gross National Savings	3,338	3,650	3,999	4,390	4,828	5,319	5,858	6,437	7,059	7,728	8,448
F) Net Factor Income from Abroad	-200	-235	-260	-265	-275	-280	-280	-280	-280	-280	-280
G) Net Capital Inflow (B+F)	-70	-5	91	217	353	389	298	202	100	-8	-133
H) Required Imports	1,651	1,735	1,829	1,934	2,052	2,185	2,330	2,486	2,653	2,833	3,027
I) Exports	1,690	1,812	1,942	2,082	2,232	2,393	2,565	2,750	2,948	3,160	3,387
J) Trade Gap (H-I)	-39	-77	-113	-148	-180	-208	-205	-264	-295	-327	-360
K) Actual Imports (I+B)	1,820	2,042	2,293	2,564	2,860	3,062	3,143	3,232	3,328	3,432	3,534

CHILE PROJECTIONS FOR 1967-76

-:-

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
A) Gross National Product (B+C)	6,019.6	6,313.9	6,644.4	6,993.8	7,361.1	7,776.7	8,210.8	8,677.2	9,169.4	9,669.2	10,238.4
B) Gross Domestic Product	6,144.0	6,471.9	6,815.3	7,176.1	7,553.8	7,989.4	8,443.2	8,907.6	9,997.3	9,914.0	10,459.4
C) Net Factor Payments	-124.4	-158.0	-170.9	-182.3	-192.7	-212.7	-232.4	-230.4	-227.9	-224.8	-221.0
D) Deficit on Current Account	208.1	213.5	177.3	159.3	120.8	57.9	77.8	34.7	-10.7	-58.8	-101.1
E) Total Resource Availabilities (A+D)	6,227.7	6,527.4	6,821.7	7,153.1	7,481.9	7,834.6	8,288.6	8,711.9	9,158.7	9,630.4	10,137.3
F). Total Fixed Investment	865.0	942.0	985.8	1,032.3	1,080.9	1,132.2	1,269.6	1,339.4	1,413.1	1,490.8	1,572.8
G) Gross National Savings	672.9	743.5	822.5	884.5	969.6	1,081.3	1,198.8	1,310.7	1,428.8	1,577.1	1,676.9
H) Net Current Transfers	16.0	15.0	14.0	11.5	9.5	7.0	7.0	6.0	5.0	4.0	3.0
I) Net Capital Inflow (D+C)	84	55	6	-23	-72	-155	-154	-195	-239	-284	-322
J) Potential Savings	672.9	743.5	822.8	906.7	994.9	1,094.6	1,198.8	1,310.7	1,428.8	1,553.6	1,685.4
K) Savings Gap (F-J)	208.1	213.5	177.0	137.1	95.5	44.6	77.8	34.7	-10.7	-58.8	-109.6
L) Trade Gap	208.1	189.3	177.3	159.3	120.3	57.9	-35.4	-50.9	-55.0	-82.3	-101.1

COLOMBIA PROJECTIONS 1964-76

-:-

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
A) Gross Domestic Product	-	5,211	5,472	5,773	6,119	6,517	6,973	7,461	7,983	8,542	9,140	9,779	10,458
B) Net Factor Income from Abroad	-	-73	-88	-75	-79	-84	-117	-120	-124	-128	-134	-139	-143
C) Gross National Product (A+B)	4,964	5,138	5,384	5,678	6,040	6,433	6,856	7,341	7,859	8,414	9,006	9,640	10,315
D) Deficit on Current Account	158	-89	164	172	196	163	232	184	172	167	154	144	133
E) Total Available Resources (C+D)	5,122	5,049	5,548	5,870	6,236	6,596	7,088	7,525	8,031	8,581	9,160	9,784	10,448
F) Gross Domestic Investment	961	838	1,099	1,197	1,376	1,481	1,698	1,813	1,942	2,072	2,219	2,363	2,527
G) Domestic Savings	803	927	935	1,025	1,180	1,318	1,466	1,629	1,770	1,905	2,065	2,219	2,394
H) Net Capital Inflow (D+B)	-	-162	76	97	117	79	115	64	48	39	20	5	-10
I) Potential Savings	803	(864)	950	1,060	1,180	1,318	1,466	1,636	1,791	1,957	2,135	2,325	2,527
J) Savings Gap (F-I)	158	(-26)	149	137	196	163	232	177	151	115	84	38	0
K) Required Imports	852	594	880	908	947	998	1,092	1,133	1,179	1,224	1,272	1,376	1,382
L) Exports	694	683	716	736	770	848	896	949	1,007	1,060	1,118	1,182	1,249
M) Trade Gap (K-L)	158	-89	164	172	177	150	196	184	172	167	154	144	133
N) Actual Imports (L+D)	852	594	880	908	966	1,011	1,128	1,133	1,179	1,227	1,272	1,326	1,382

VII. The Projection Model

Basic Variables

V_t = Gross National Product

I_t = actual gross domestic investment

S_t = actual gross domestic saving

M_t = actual imports of goods and services

E_t = actual exports of goods and services

F_t = net capital inflow

1) Savings gap

A) Investment requirements

i) Variable:

$(I)_t$ = basic investment requirements

ii) Constants (for each set of projections):

$\bar{r}$ = target rate of GNP growth

$\bar{i}$ = constraint on rate of investment growth (15%)

k = lagged incremental capital-output ratio ($k = k' + \frac{z}{\bar{r}}$, where k' and z are also constants)

iii) Relationships

$(I)_o = I_o$ [1]

$$(I)_t = \text{the lesser of } \begin{matrix} \bar{r}\, k\, V_t \\ [1+\bar{i}]I_{t-1} \end{matrix}$$

$$V_{t+1} = V_t + \frac{(I)_t}{k}$$

---

[1] $(I)_t = I_t$ except where $h > 0$ (see below).

B) Potential savings

i) Variables

$(S)_t$ = potential savings

ii) Constant

α = marginal propensity to save

iii) Relationships

$$(S)_o = I_o - M_o + E_o \; (=I_o - F_o)$$

$$(S)_{t+1} = (S)_t + \alpha(V_{t+1} - V_t)$$

Prospective Savings gap = $(I)_t - (S)_t$

2) Trade gap

A) Exchange-Saving Production

i) Variables

V_{mt} = exchange saving production (export expansion or import substitution)

I_{mt} = investment in exchange-saving production (see section 4 for determination)

ii) Constants

b = premium on capital-output ratio (= 1.2)

j = constraint on share of total investment devoted to I_{mt} (= .3)

iii) Relationships

$$V_{mt} = \sum_{t=1}^{t-1} I_{mt}/bk$$

$$I_t = (I)_t + (1-\frac{1}{b})\, I_{mt}$$

B) Import requirements

i) Variable

$(M)_t$ = required imports

ii) Constants

μ = marginal propensity to import

λ = portion of V_{mt} for import-substitution (= .5)

iii) Relationships

$$(M)_o = M_o$$

$$(M)_{t+1} = (M)_t + \mu(V_{t+1} - V_t) - \lambda V_{mt}.$$

C) Exports

i) Constant

ϵ = exogenous growth rate of exports

ii) Relationship

$$E_t = (1+\epsilon)^t E_o + (1-\lambda) V_{mt}$$

3) Determination of capital inflow requirements

Relationships:

$$F_t = \text{the larger of} \quad \begin{array}{l} (I)_t - (S)_t \quad 2/ \\ (M)_t - E_t \end{array}$$

$$M_t = E_t + F_t$$

$$S_t = I_t - F_t$$

2/ The values utilized for h, b and j insure that the premium on exchange-saving investment (the difference between I_t and $(I)_t$ will never be greater than the "excess gap", so that no reversal of the dominance of gaps can occur.

4) Exchange-saving investment

i) Constants

j = constraint on share of total investment allocated to I_{mt}

h = share of current year's excess gap which I_{mt} is designed to fill in following year (= 0 or .5)

ii) Relationships

If $M_t \leq E$, then $I_{mt} = 0$

If $M_t > E_t$, and $(S)_t \geq (I)_t$, then I_{mt} = the lesser

of $\begin{matrix} hbk[(M)_t - E_t] \\ j(I)_t \end{matrix}$

If $M_t > E_t$, and $(S)_t < (I)_t$, and if $(I)_t - (S)_t \geq$

$\geq (M)_t - E_t$, then $I_{mt} = 0$

If $(I)_t - S_t < (M)_t - E_t$, then I_{mt} = the lesser

of $\begin{matrix} hbk[(M)_t - E_t - (I)_t + (S)_t] \\ j(I)_t \end{matrix}$

5) Population growth

i) Variable

N = population

ii) Constant

ρ = growth rate of population

iii) Relationship

$$N_t = N_o (1+\rho)^t$$

VIII. PARAMETERS AND BASE YEAR VALUES.

	Historical Parameters (I-A Projections)					
	Target GNP Growth Rate ($\bar{r}$)	Marginal Propensity To Save (α)	Capital-Output Ratio (k)	Export Growth Rate (ϵ)	Marginal Propensity To Import (μ)	Population Growth Rate (ρ)
1. Argentina	.0275	.3400	6.6800	.0286	.0600	.0170
2. Bolivia	.0348	.2200	4.6900	.0500	.2300	.0230
3. Brazil[1]	.0576	.1700	3.1500	.0286	.0700	.0310
4. Chile[1]	.0350	.1300	3.1800	.0600	.1800	.0230
5. Colombia[1]	.0461	.2100	4.9000	.0250	.1600	.0300
6. Ecuador	.0452	.2100	3.6400	.0300	.2300	.0300
7. Costa Rica	.0541	.3800	3.7000	.0248	.3000	.0380
8. El Salvador	.0499	.1900	2.4700	.0488	.3000	.0320
9. Guatemala	.0450	.1900	3.0100	.0464	.2100	.0310
10. Honduras	.0415	.1400	3.6100	.0190	.2100	.0310
11. Mexico	.0601	.2100	3.0000	.0520	.0840	.0320
12. Nicaragua	.0514	.1500	3.0000	.0670	.3000	.0300
13. Panama	.0577	.2100	2.6400	.0477	.3000	.0300
14. Paraguay	.0313	.1800	5.1600	.0250	.1700	.0220
15. Peru	.0533	.2200	4.6800	.0550	.2300	.0300
16. Venezuela	.0693	.3500	4.3500	.0250	.2500	.0340

[1] For Brazil, Chile and Colombia, imports are defined to include(and hence savings to exclude) the outflow of investment income. The projections of capital inflow are rendered comparable for these three countries by the subtraction of a projection of this item for each year (see Net Factor Income from Abroad lines in Section VI.)

MAXIMUM PERFORMANCE PARAMETERS (II-D PROJECTIONS)

	Target GNP Growth Rate $\bar{r}$	Marginal Propensity To Save α	Capital-Output Ratio k	Export Growth Rate ϵ	Marginal Propensity To Import μ	Marginal Capital-Output Ratio[1] k'	Share in GNP of "Unproductive" Investment z[1]
1. Argentina	.0537	.3450	4.3966	.0286	.0600	2.0000	.1287
2. Bolivia	.0574	.2850	4.4337	.0500	.2300	4.0400	.0226
3. Brazil[2]	.0750	.2600	2.9287	.0720	.0700	2.1900	.0554
4. Chile[2]	.0550	.2400	2.7509	.0740	.1150	2.0000	.0413
5. Colombia[2]	.0700	.3500	3.5000	.0580	.1400	2.5000	.0700
6. Ecuador	.0626	.2800	3.1837	.0300	.2300	2.0000	.0741
7. Costa Rica	.0670	.3650	3.4630	.0248	.3000	2.4600	.0672
8. El Salvador	.0649	.2700	2.3621	.0488	.3000	2.0000	.0235
9. Guatemala	.0625	.2700	3.0100	.0464	.2100	3.0100	-
10. Honduras	.0607	.2450	3.4783	.0190	.2100	3.1900	.0175
11. Mexico	.0700	.2800	2.8671	.0520	.0840	2.0500	.0572
12. Nicaragua	.0657	.2500	2.8041	.0670	.3000	2.1100	.0456
13. Panama	.0688	.2800	2.5363	.0477	.3000	2.0000	.0369
14. Paraguay	.0556	.2650	4.1624	.0250	.1700	2.9700	.0663
15. Peru	.0666	.2850	4.1441	.0550	.2300	2.0000	.1423
16. Venezuela	.0746	.3500	4.3424	.0250	.2500	4.2700	.0054

[1] The Capital-Output Ratio in column 3 is given by the formula $k = k' + z/\bar{r}$.

[2] Values for Brazil, Chile and Colombia, used as basis for variations on maximum performance assumptions. Actual KK-D Projections for these countries are given in Section VI.

Base Year Values (1966) (millions of $US)

	GNP V	Required Imports (M)	Exports E	Potential Savings (S)	Investment I	Population[1] N	Capital Inflow F
1. Argentina	11,506.0	1,344.8	1,615.0	2,592.0	2,113.7	22.0	-270.2
2. Bolivia	693.3	135.4	104.9	52.6	101.8	4.3	49.3
3. Brazil[2]	20,000.0	1,650.8	1,690.1	3,338.0	3,468.0	84.7	- 70.0
4. Chile [2]	6,019.6	985.2	777.1	672.9	865.0	8.7	84.1
5. Colombia[2]	5,384.0	880.0	716.0	950.0	1,099.0	18.5	76.0
6. Ecuador	1,055.2	205.2	175.2	227.1	173.6	5.1	30.1
7. Costa Rica	564.5	160.3	118.0	63.7	105.8	1.6	42.3
8. El Salvador	838.9	219.8	195.9	87.4	103.4	3.0	23.9
9. Guatemala	1,412.3	238.9	201.7	153.7	191.3	4.6	37.6
10. Honduras	499.7	112.4	101.1	68.2	74.9	2.3	11.3
11. Mexico	18,279.6	1,942.2	1,953.9	3,317.5	3,295.8	42.2	-11.7
12. Nicaragua	552.2	159.2	154.9	63.0	85.1	1.7	22.1
13. Panama	642.9	235.7	220.7	105.6	97.9	1.2	14.9
14. Paraguay	397.9	60.4	49.3	55.9	64.3	2.0	11.1
15. Peru	3,261.0	801.8	767.5	718.4	813.4	12.0	95.0
16. Venezuela	7,160.6	1,649.2	2,671.3	2,501.8	1,640.6	9.1	-861.2

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[1] Millions of persons.

[2] See footnote 1, Historical Parameters table.

IX. Sources of Base Year Values and Parameters

Data from the period 1950-1965 were the major source of the base year values and performance parameters for each country.* All values were expressed in 1962 dollars.

Base year values

For purposes of projecting future growth paths and capital inflow requirements it was necessary to construct a series through 1966 and begin projections with 1967. There is, however, no reliable economic data as yet for 1966, and there are serious gaps in the record for 1965 and even for 1964. Even if the data were available, the use of single year figures as base values might introduce distortions from any aberrations in the performance of a particular year.

The general procedure followed was to average the values for 1963-65, to attribute these averages to 1964, and to project them to 1966 based on the "historical" parameters derived from postwar experience.**

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* The projections included in the Chenery paper for Brazil, Chile and Colombia are, as described above, modifications of the values in the three country papers. Parameters from the sources indicated formed the basis for most of the modifications.

** Where 1965 values were not available, 1963-64 averages were attributed to 1964 and projected forward. Some of the series for trade variables ended in 1963, so that the 1961-63 averages had to be attributed to 1962 and projected. Export and import figures attributed to 1964 were in each case constrained to conform to the average capital inflow for 1963-65 (for which more recent figures were frequently available) with equal parts of the initial discrepancy added or subtracted from exports and imports.

Parameter Estimates

Growth rates of G.N.P. (r)

Values were derived from regressions of the logarithm of G.N.P. on time from 1950 to 1964 for all countries but Bolivia, and from 1957 to 1964 for that country.

Marginal propensity to save (α)

a) Values for Argentina, Chile and Paraguay were the partial regression coefficients of gross domestic savings (I minus F) on G.N.P. from 1950 to 1964 when the capital inflow (F) was included in the equation.

b) Values for Colombia, Mexico and Nicaragua were obtained from similar regressions but ones in which the export share (E/V) was also included.*

c) Values for Brazil, Ecuador and El Salvador were based on unpublished results of Luis Landau of Harvard University, who regressed per capita savings on per capita income and on F from 1946 to 1960, corrected for population growth.

The general criteria for selection among the above was the explanatory power (R^2) of the equations and the reasonableness of the values.

d) Values for Honduras, Peru and Venezuela were the average savings rate, 1963-65.

e) Values for Bolivia, Costa Rica, Guatemala and Panama were compromises among several conflicting estimates.

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* See [2] for the theoretical basis of these estimations.

Capital-Output Ratio (k)

As explained in Section II, observations of the capital-output ratio and the reciprocal of the growth rate (r) for each year or cycle were weighted by the number of years represented, and estimates of k' and z emerged from the regression of k on $\frac{1}{r}$.

a) The fixed ratios represent the solution of the estimated equation for the reciprocal of the historical growth rates for every country but Bolivia (for which the value used was the Chenery-Strout historical estimate).

b) For the variable ratios, the value used for z was generally half of that obtained in the regressions, and k' was obtained by solving the equation for the value of the fixed ratio given above at the historical growth rate with the lower value of z. This produced values for k' which were often much larger, but for several countries -- Argentina, Ecuador, El Salvador, Panama and Peru -- the value was still below 2. In these cases a value of two was assumed, and z was obtained by again solving the equation for the fixed ratio at historical growth rates. (For Bolivia a low value of z obtained from a pooled regression was used.)

Marginal Propensity to Import (μ)

a) Values for Argentina, Bolivia, Costa Rica, Ecuador, Guatemala, Honduras and Paraguay were the regression coefficients of imports (M) on G.N.P. from 1950 to 1964 and for Mexico from 1951-62.

b) Values for Nicaragua and Venezuela were the recent average share of imports in G.N.P.

c) Values for Brazil, Chile and Colombia were based on the country papers.

d) Values for El Salvador and Panama were compromises among conflicting estimates.

Export Growth Rate (ε)

a) Values were derived from the regression of the logarithm of exports on time from 1950-1964 for Costa Rica, El Salvador, Guatemala, Nicaragua, and Panama and from 1957-64 for Mexico.

b) Values were the historical or lower range estimates in Chenery-Strout paper [3] for Argentina, Bolivia, Brazil, Chile, Colombia, Honduras, and Venezuela.

c) Values for Ecuador and Paraguay were compromises based on conflicting estimates in b).

d) The Peru value is an optimistic-but-realistic projection provided informally by Erik Thorbecke of A.I.D.

Population Growth Rate (ρ)

A.I.D. values (Statistics & Reports Division, May, 1966) were used for all countries.

Data Sources

1. GNP (V)

Figures were obtained from U.N. Yearbooks of National Accounts Statistics for Chile, Colombia, Ecuador, Guatemala, Honduras, Paraguay, Peru, and Venezuela, and from A.I.D. National Accounts Summary Sheets (June, 1966) for Argentina, Bolivia, Brazil, Costa Rica, El Salvador, Mexico, Nicaragua, Panama, and Uruguay. Conversion to 1962 dollars used A.I.D. exchange rates throughout.

2. Exports (E) and Imports (M)

Figures were obtained from I.M.F. Balance of Payments Yearbooks. Both the export and import figures used are net of investment income and were converted to 1962 prices using the price deflator of exports in the U.S. G.N.P. accounts.

3. Investment (I)

Figures were obtained from U.N. Yearbooks of National Accounts Statistics, for most countries. I is defined as Gross Domestic Investment, which equals Gross Domestic Fixed Capital Foundation plus change in stocks. For Peru and Venezuela, the source for GDFCF and change in stocks was A.I.D. - National Accounts Summary Sheets. For Argentina, Brazil, and Costa Rica, this same source provided the total investment figure (no data on stocks).

4. Population (N)

A.I.D. figures were used throughout.